NADIR EXPERIENCES AND THEIR AFTEREFFECTS AS RELATED TO AGE AND SELF-ACTUALIZATION

By

CHARLES CURTISS KAUFMAN

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KEY TO SYMBOLS OF ABBREVIATIONS

Symbol	Key
PE.	.an experience of what is subjectively recognized to be one of the high points of life, one of the most exciting, rich and fulfilling experiences which the person has ever had.
NE.	.an experience of what is subjectively recognized to be one of the lowest points of life, one of the worst, most unpleasant and harrowing experiences of the person's life.
O	.an experience which leads to an S reporting that he or she feels closer to people, is more tolerant of others faults, or has become more aware of the meaning of life.
C	.an experience which leads to an S reporting that he or she feels insecure, unhappy or depressed, distrusts people more, or has tried to forget or repress the experience.
Y	.a group of young adults (between the ages of 17 and 26).
M	.a group of mid-age adults (between the ages of 37 and 46).
E	.a group of older adults (between the ages of 62 and 71).
HI SA	.high self-actualizing Ss who were chosen on the basis of the highest 15 POI scores from each age group (Y, M, E).
LO SA	.low self-actualizing Ss who were chosen on the basis of the lowest 15 POI scores from each age group (Y, M, E).

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By

Charles Curtiss Kaufman

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The influence of two factors, age and degree of self-actualization, on the aftereffects of negative experiences were examined. A model linking these factors was proposed based on Maslow's (1954) need hierarchy and reports on negative experiences in the literature. Six hypotheses generated from this model were tested:

1. Among normal individuals, degree of self-actualization varies directly with age, being higher in older groups.

2. When asked to describe their "most vivid experience" Ss of different ages will report negative experiences (NE) and positive experiences (PE) in different porportions: young (Y) group Ss reporting more NE, middle (M) group Ss reporting NE and PE in equal proportions, and older (E) group Ss reporting more PE.

3. Choice of reported NE or PE as "more beneficial" for S will vary as a function of combined factors of age and degree of self-actualization.

a. In the (Y) group, high self-actualizing (HI SA) Ss will report more NE than low self-actualizing (LO SA) Ss of this age who will report more PE.

b. In the (M) group, HI SA Ss will report NE and PE in equal proportion; LO SA Ss will report more PE.

c. In the (E) group, HI SA Ss will report more PE while LO SA Ss will report more NE.

4. The frequency of NE aftereffects classified by a four judge panel as either opening or closing psychologically will vary with age; (Y) group Ss having fewer opening aftereffects than (E) group Ss.

5. The frequency of NE aftereffects judged opening will vary with Ss' degree of self-actualization; HI SA Ss will have more opening aftereffects than LO SA Ss in all age groups.

6. With respect to the above hypotheses, no sex differences will be found.

Written replies to requests for "most vivid experiences" and their aftereffects along with responses to Shostrom's (1962) Personality Orientation Inventory (POI), were collected from 250 randomly selected Ss in three age ranges: Y, ages 17 to 26; M, ages 37 to 46; and E, ages 62 to 71. Combined raw scores of the I (support) and T_c (time competence) scales from the POI were used to measure level of self-actualization, Damm (1969). In each age category, the 15 highest and 15 lowest scoring Ss were designated as HI SA and LO SA, respectively. Four trained judges classified typed reports of NE aftereffects as either psychologically opening or closing

Agreement among judges was beyond the .01 level.

The first hypothesis was accepted (analysis of variance, alpha = .01) as was the fifth (chi-square, alpha = .05), and the sixth (with a single exception, in that the (Y) group females scored significantly higher than males on the POI, alpha = .01). Hypotheses two, three and four were rejected because differences failed to reach the .05 level of significance. However, qualitative support was demonstrated for the second and fourth hypotheses.

Discussion of the results suggested difficulty in successfully evaluating hypothesis three in this study. An apparent linkage of self-actualization with age was demonstrated from which differential aftereffects of NE for HI SA and LO SA were shown to be present as predicted from the proposed model. Therefore the model was accepted as being feasible with the provision that further research was needed to specifically demonstrate the explanatory value of the threshold concept as a possible determinant of the outcome of nadir events.

CHAPTER I

INTRODUCTION

American psychology in the last half century might be characterized in terms of several major trends with respect to theories concerning human experience. Freud (1933) presented a description of man emphasizing internal determinism which is essentially a pessimistic view of man. He stressed man's constant drive toward homeostatic balance in an effort to control raging internal impulses which are at odds with external societal and cultural demands. Freud referred to terms such as well-being, joy, happiness and self-satisfaction in a murky, vague fashion, essentially defining them as reflecting an absence of pathology and lacking intrinsic motive power.

After the Freudians came the Behaviorists. The ideas of Watson (1928) were subsequently refined and expanded by Skinner (1953) into an approach which stresses external determinism. Man's behavior is understood as a series of environmental consequences of lesser or greater complexity which in turn shape man's behavior externally while his inner experience processes are dismissed as semantic delusion and/or

superstition. Here also, notions of joy, happiness, and transcendence are peripheral concepts which reflect the fortuitous meshing of reinforcement schedules, or, the consummate skill of an expert trainer in handling a trainee.

Recently an alternative approach to the determinisms of the internal and external has developed to the point that it may now be called a movement as indicated by such terms as "Humanistic", "Third Force", or "Growth" psychology. It is derived from a large number of workers including Jung (1933), Allport (1955), Perls (196), Moustakas (1956), Schactel (1959), Combs & Syngg (1959), Horney (1971), Fromm (1956), Jourard (1963) and others.

However, this movement has found a central spokesman in the reports of Abraham Maslow (1954, 1962) who has attempted to elucidate a framework for a conception of man as more than a collection of impulses and habits, more than a series of instincts and mechanisms. He has tried to study man in terms of his capacity to become a complete and fulfilled being, capable of achieving an awareness in experience which enables him to transcend his environment and carries him beyond the routines and habits necessary for coping with biological and social needs.

In Motivation and personality (1954) Maslow sets forth a dynamic theory of motivation. He posits an hierarchically

arranged series of needs. The first class of needs that requires immediate attention consists of physiological requirements - air, water, food, shelter, sleep and sex. Safety and security needs comprise the second class which presses for establishment of some sense of order to insure freedom from fears of physical harm or serious disruption of the routines of living. Next are needs of love and belongingness which require affection and affiliation. Esteem needs, the next class, include self-esteem and recognition from others (reputation and status). The former is characterized by concerns with achievement, adequacy, competence, and mastery in order to develop self-confidence. The latter stresses acknowledgment by others of one's worth as a person. Finally, at the top of the hierarchy, there are needs related to self-actualization which reflect an individual's desires and efforts to be self-fulfilled, or, to become most fully that which he or she is potentially able to be.

Maslow states that as each class of needs is met, the next higher class of needs emerges to become the guiding aspect in a person's life. That is, one must first satisfy the physiological needs before one can become aware or pay attention to the needs of safety and security or esteem. Once the physiological needs have been sufficiently gratified however, then safety and security needs (the next class in

the hierarchy) begin to predominate. These in turn give way as they are satisfied to concerns over love and belongingness.

Thus, gratification of immediate needs leads to emergence of other needs until finally the need for self-actualization arises. In practice, of course, Maslow (1954) recognized that no sharp boundary between various classes of needs and subsequent efforts to satisfy them would exist but rather degrees of relative satisfaction would obtain:

> So far, our theoretical discussion may have given the impression that these five sets of needs are somehow in such terms as the following: If one need is satisfied, then another emerges. This statement might have given the false impression that a need must be satisfied 100 percent before the next need emerges. In actual fact, most members of our society who are normal are partially satisfied in all their basic needs and partially unsatisfied in all their basic needs at the same time. A more realistic description of the hierarchy would be in terms of decreasing percentages of satisfaction as we go up the hierarchy of prepotency. For example, if I may assign arbitrary figures for the sake of illustration, it is as if the average citizen is satisfied perhaps 85 percent in his physiological needs, 70 percent in his safety needs, 50 percent in his love needs, 40 percent in his self-esteem needs, and 10 percent in his self-actualization needs.
>
> As for the concept of emergence of a new need after satisfaction of the prepotent need, this emergence is not a sudden, saltatory phenomenon, but rather a gradual emergence by slow degrees from nothingness. For instance, if prepotent need A is satisfied only 10 percent, then need B may not be visible at all. However, as this need A becomes satisfied 25 percent, need B

> may emerge 5 percent, as need A becomes satisfied 75 percent, need B may emerge 50 percent, and so on (p. 100).

Self-actualization needs emerge after most of the other needs have been reasonably sated. Maslow was particularly interested in studying people who were satisfying this class of needs, as opposed to focusing on persons coping with lower order needs primarily. Accordingly, he conceptualized self-actualization as a syndrome, "loosely described as the full use and exploitation of talents, capacities, potentialities, etc." (Maslow, 1954, p. 200).

Initially, a large number of college students were screened to obtain subjects. Maslow reports that "in a first research with young people, three thousand college students were screened, but yielded only one immediately usable subject and a dozen or two possible future subjects" (1954, p. 200). Subsequently, the healthiest 1% of the Brandeis College population was chosen as subjects with supplementation of historical figures and contemporaries of Maslow (Goble, 1970; Maslow, 1954).

These efforts led to a descriptive picture of healthy people in terms of their clinically observed characteristics (Maslow, 1962a):

1. Superior perception of reality
2. Increased acceptance of self, of others, and of nature

3. Increased spontaniety
4. Increase in problem-centering
5. Increased detachment and desire for privacy
6. Increased autonomy, and resistance to enculturation
7. Greater freshness of appreciation, and richness of emotional reaction
8. Higher frequency of peak experiences
9. Increased identification with the human species
10. Changed (the clinician would say, improved) interpersonal relations
11. More democratic character structure
12. Greatly increased creativeness
13. Certain changes in the value system

Goble (1970) summarized the characteristics of self-actualization:

> Probably the most universal and common aspect of these superior people is their ability to see life clearly, to see it as it is rather than as they wish it to be. They are less emotional and more objective about their observations. Most people hear what they want to hear from other people, even when it is not entirely true or sincere but self-actualizing people do not allow their hopes and wishes to distort their observations. They are far above average in their ability to judge people correctly and to see through the phony or the fake. Generally speaking, their choice of marriage partners is far better than average, although by no means perfect.
>
> Because of their superior perception, the self-actualizing are more decisive and have a clearer notion of what is right and wrong. They are more accurate in their prediction of future events. This ability of these "fully human" persons to see more efficiently, to be better in their judgment, extends to many areas of life, involving the understanding not only of people but of art, music, politics, and philosophy. Self-actualizing people penetrate and see concealed and confused realities more swiftly and accurately than average individuals (p. 25).

Self-actualizing persons are not without problems or difficulties, pain, sorrow, and troubles but rather, they "enjoy life in general and in practically all its aspects, while most other people enjoy only stray moments of triump, of achievement or of climax or peak experiences" (Maslow, 1962a, p. 29).

Goble (1970, p. 24) observed that "self-actualizers" are usually sixty years of age or more, so that most people do not belong to this category in that they have not yet arrived but are becoming and moving toward maturity. However, Maslow (1962a), as a result of exploring the episodes called "peak experiences," was led to modify his views on self-actualization as discussed in the following paragraphs.

Peak Experiences

Peak experiences are particular occurrences, episodes, or moments of great awe, intense happiness, rapture, bliss, or ecstasy which parallel descriptions by writers referring to mystical experiences according to Maslow (1954, p. 216).

> There were the same feelings of limitless horizons opening up to the vision, the feeling of being simultaneously more powerful and also more helpless than one ever was before, the feeling of great ecstasy and wonder and awe, the loss of placing in time and space, with finally, the conviction that something extremely important and valuable had happened, so that the subject is to some extent transformed and strengthened even in his daily

life by such experiences.

In describing the aftereffects of peak experiences, Maslow states (1962a, p. 95):

> Completely separable from the question of the external validity of cognition in the various peak-experiences, is that of the aftereffects upon the person of these experiences which in still another sense, may be said to validate the experience. I have no controlled research data to present. I have only the unanimous agreement of my subjects that there were such effects, my own conviction that there were, and the complete agreement of all the writers on creativeness, love, insight, mystic experience and aesthetic experience. On these grounds I feel justified in making at least the following affirmations or propositions, all of which are testable.
>
> 1. Peak-experiences may and do have some therapeutic effects in the strict sense of removing symptoms. I have at least two reports - one from a psychologist, one from an anthropologist - of mystic or oceanic experiences so profound as to remove certain neurotic symptoms forever after. Such conversion experiences are of course plentifully recorded in human history but so far as I know have never received the attention of psychologists or psychiatrists.
>
> 2. They can change the person's view of himself in a healthy direction.
>
> 3. They can change his view of other people and his relations to them in many ways.
>
> 4. They can change more or less permanently his view of the world, or of aspects of it.
>
> 5. They can release him for greater creativity, spontaniety, expressiveness, idiosyncracy.
>
> 6. He remembers the experience as a very important and desirable happening and seeks to repeat it.

7. The person is more apt to feel that life in general is worth-while, even if it is usually drab, pedestrian, painful, or ungratifying, since beauty, excitment, honesty, play, goodness, truth and meaningfulness have been demonstrated to him to exist.

The importance of peak experiences seems to lie in aiding a person in developing more completely or evolving to a more mature level. This seems to occur through integration of the individual's various aspects or personality traits and qualities (Goble, 1970; Maslow, 1954, 1962a). Increased appreciation of oneself and others accompanies clearer perceptions of "reality" and subsequent resolution of conflict between "wish" and "fact" in reference to the order of things, or, the meaning of life and one's involvement in it.

In short, the experience enables one to come closer to the essence or mystery of existence, with the likely possible aftereffect of increased maturity in living, greater self-acceptance, better relationships with others, and more intrapersonal harmony. Studying reports of these experiences led Maslow to modify his original description of self-actualization (1962a, p. 91).

> In other words, any person in any of the peak experiences takes on temporarily many of the characteristics which I found in self-actualizing individuals. That is, for the time they become self-actualizers. We may think of it as a passing characterological

> change if we wish, and not just as an emotional-cognitive-expressive state. Not only are these his happiest and most fulfilling moments, but they are also moments of greatest maturity, individuation, fulfillment- in a word, his healthiest moments.
>
> This makes it possible for us to redefine self-actualization in such a way as to purge it of its static and typological shortcomings, and to make it less a kind of all-or-none pantheon into which some rare people enter at the age of 60. We may define it as an episode, or a spurt in which the powers of the person come together in a particularly efficient and intensely enjoyable way, and in which he is more integrated and less split, more open for experience, more idiosyncratic, more perfectly expressive or spontaneous, or fully functioning, more creative, more humorous, more ego-transcending, more independent of his lower needs, etc. He becomes in these episodes more truly himself, more perfectly actualizing his potentialities, closer to the core of his Being.

Maslow goes on to express the opinion that "such states or episodes can, in theory, come at any time in life to any person" (1962a, p. 93).

Notably absent in his reports is information on "nadir experiences" as he points out in a footnote (Maslow, 1962a, p. 79).

> I made no effort to explore, nor did any of my subjects speak of what may be called the "nadir experiences," e.g. the (to some) painful and crushing insights into the inevitability of aging and death, of ultimate aloneness and responsibility of the individual, of the impersonality of nature, of the nature of the unconscious, etc.

Yet the importance of nadir experiences or negative episodes is underscored by an earlier comment in his discussion of

growth (1962a, p. 36).

> The most important learning experiences reported to me by my subjects were very frequently single life experiences such as tragedies, deaths, traumata, conversions, and sudden insights, which forced change in the life-outlook of the person and consequently everything that he did.

Nadir Experiences

Nadir experiences came to the attention of researchers, students, and clinicians who were stimulated by Maslow's reports. Several approaches to the study of these experiences have been taken. Thorne (1963) attempted to construct a taxonomic system for each episodes. Using a sentence completion method, he obtained responses from Ss on both peak and nadir experiences. Operationally, he defined peak experience as "a subjective experiencing of what is subjectively recognized to be one of the high points of life, one of the most exciting, rich and fulfilling experiences which the person has ever had." Conversely, nadir experiences were defined as "a subjective experiencing of what is subjectively recognized to be one of the lowest points of life, one of the worst, most unpleasant and harrowing experiences of life" (p. 248).

Thorne (1963, p. 249) states that, "The variety of peak and nadir experiences reported by normal subjects is so great

that it is difficult to arrange a classification system to encompass them." He offered a six category scheme for peak experiences but simply defined nadir categories as the polar opposites without elaborating. This proposed system was used in two investigations by Allen, Haupt, and Jones (1964). Their first study was of peak experiences among college students. The second study (Jones, Allen, and Haupt, 1964) was concerned with nadir experiences reported by 213 college students in response to the sentence completion method used by Thorne. Following Thorne's taxonomic approach they developed the following six categories by which to classify the response descriptions: 1) sensual (unpleasant) experiences; 2) emotional (unpleasant) experiences; 3) cognitive (failure) experiences, misadventures of the mind; 4) conative (frustrated) experiences; man against destiny; 5) actualization (lack of), failure to be what one can become; and 6) climax (absence of) experiences, moments of spiritual failure. It is interesting to note that only three Ss reported having never had a nadir experience. Results suggested that for the college Ss nadir experiences were most frequently conative.

Margoshes and Litt (1966) chose to examine what they termed "vivid experiences," using peak and nadir as subclasses under this rubric. They studied 96 normal college

S and 96 institutionalized psychotics, asking them to report their most vivid experiences. While the psychotics gave more dramatic or richer descriptions compared to the flat, stereotyped reports of the students, the psychotics also reported more nadir than peak experiences, with the reverse true for the college students. Over half the psychotics reported nadir episodes as their most vivid experiences (47 nadir, 45 peak, 4 doubtful) while less than one-third of the students did so (30 nadir, 58 peak, 8 doubtful).

Lynch (1968) examined "intense experience" which was defined as "the most intense experience reported by the subject, the one which was felt to have had the greatest personal impact." Using narrative descriptions of 217 college Ss, he sought to examine elements of pleasure and suffering; personal involvement with another, one's self, or the external world; psychological freeing or closing; and self-perception with respect to intense experiences. Responses of the Ss were classified by a group of judges into four possible categories:

Suffering - - - one of the worst, painful, and distressful experiences ever had

Pleasurable - - one of the most fulfilling, gratifying, joyous, and satisfying experiences ever had

Bitter-sweet- - an experience containing elements of both the first two categories but essentially pleasurable

Sweet-bitter- - an experience containing elements of both the first two categories but essentially suffering

Of the 217 responses, 60 were Pleasurable, 108 Suffering, 21 were Bitter-sweet, and 28 were Sweet-bitter. That is, in responding to a request to describe their most intense experience the 168 Ss describing either a Pleasurable (peak) or Suffering (nadir) episode, reported negative over positive experiences in a ratio of almost 2 to 1 (108 Suffering or 64%, to 60 Pleasurable or 36%).

A second part of the study sought to examine a taxonomy developed by Landsman (1961) for classifying intense positive experiences in terms of whether they occur intrapersonally, involve one's self in relation to others, or stem from interaction with the environment. Results supported Landsman's earlier report that intense experiences occur most frequently in an interpersonal setting, next most frequently as an intrapersonal event, and rarely as an environmental interaction.

With respect to opening and closing effects of nadir experiences, Lynch defined the first as one which reduces defensiveness and enhances awareness which encourages the person to seek a wider range of experiencing while the second increases defensiveness and encourages avoidance, thereby reducing the person's potential range of experiencing (p. 52).

Of 60 reports judged Pleasurable all but 1 was judged to be opening, while of 108 Suffering experiences only 25 (23%) were judged to be opening. The remainder were judged closing compared to the single Pleasurable experience judged to be closing.

A group of 55 Ss were given the Tennessee Self-Concept Scale. From this group, high and low scoring Ss were selected and their responses evaluated with respect to opening and closing aftereffects. Of the 27 high scoring (high self-esteem) Ss, 81.5% had experiences judged as opening with the reverse pattern for low scoring (low self-esteem) Ss, who had only 11.1% opening experiences.

In summary, Lynch (1968) reports that "intense experiences" were more often negative or Suffering than positive or Pleasurable; occurred most frequently in an interpersonal situation; were opening when Pleasurable and generally closing when Suffering (3 out of 4); and that high self-esteem was associated with aftereffects judged to be opening.

Fuerst (1965) studied what he called "turning point experiences" which are episodes perceived by the S as having precipitated a major life change. These experience reports were classified as positive or negative depending on the reported aftereffect (p. 26). Of 153 Ss he reports 37 cases of beneficial results from what are usually considered to be

negative experiences as shown below:

Category	Frequency
Illness or death	20
Personal injury or illness	10
Divorce or separation	4
Change in parent's marital status	3
	37

Additionally the study indicated that negative turning point experiences were related to unsuccessful relationships with other persons.

Following up Fuerst's report, McKenzie (1967) studied two kinds of extreme negative experience. The first he called a negative-positive (NP) which consisted of a reported experience that was seen as extremely negative by the person at the time of occurrence but which subsequently was viewed as beneficial in effect. The second, called a negative-negative (NN) consisted of a reported negative experience which had lasting negative aftereffects (p. 3). Four factors were examined to determine whether they were related to the process by which a negative experience becomes a NP experience. These were: 1) the availability of a helping person during the episode, 2) the amount of time elapsed since the experience, 3) the duration of the experience, and 4) sex differences.

Although the exact nature of the influence of a helping

person was not established, McKenzie reported a statistically significant number of Ss, who were community college students, who did report the presence of a helping person in cases of negative experiences later viewed as positive (NP). However, of 149 cases of NN experiences, 58 occurred despite the presence of a helping person. There appeared to be no relationship between the effect of a negative experience and the time elapsed after the experience. NN experiences had longer duration than the NP experiences for the total group and there was only one sex difference - women reported the presence of a helping person more often.

Ebersole (1970) conducted an investigation of the effects of nadir experiences using the descriptions of extreme episodes of 36 college students. After asking the Ss to describe their most positive and most negative experiences he asked each S three questions (p. 207):

1. What lasting aftereffect, if any, did your peak experience produce?
2. What lasting aftereffect, if any, did your nadir experience produce?
3. Which of these had the most lasting aftereffect?

Two raters then classified the papers according to the following criteria:

> The nadir experience was rated as having negative effects if S reported feeling insecure, unhappy or depressed as a consequence of the nadir or if

> he stated that he had repressed the experience. S's reporting that he felt closer to people, became more tolerant of others's faults, etc., or that he was led to think more deeply about the meaning of life or death, resulted in a positive rating of nadir effects. A third category was created for neutral, non-lasting effects, or no effects, and for confusing, mixed, or vague reporting of effects. The same protocols were also analyzed as to whether the peak or nadir experience was reported as having the more lasting effect (p. 207).

Between 36 and 44 percent of the Ss reported positive effects from nadir experiences and 39 percent stated that nadir effects were more important than peak effects which Ebersole interpreted as support for Maslow's suggestion that suffering may be beneficial.

Critique of Reported Research

Studies of nadir experiences thus far present a partial and somewhat confusing picture. Thorne's (1963) study is really one of peak experiences. All of the other studies essentially deal with young people (under 26) despite the inclusion of a few older subjects in some of them. Allen, Jones, and Haupt (1964) and Ebersole (1970) focused on college students, Fuerst (1965) used some data from male prisoners, delinquent girls, and student counseling center clients, but basically his study was of college age subjects (151 enrolled in college formed the nucleus of the project).

Margoshes and Litt (1966) used students and institutionalized psychotics, but the mean age was 25 which suggests that mainly younger Ss comprised the sample since the age range reported for both groups was 18 to 50. McKenzie (1967) and Lynch (1968) both refer to older Ss in their samples. However, in the former, of 300 Ss, only 28 were over the age of 25, and 227 of the Ss were between ages 17 and 19 (p. 50). In the latter, of 217 Ss, well over half of them were between the ages of 18 and 25, and only 8 of them were over age 50. He reports a median age of 23, a modal age of 19, despite the range of 18 to 62 for the entire group (p. 36).

In essence, there are no reports on older people and little information on middle age persons with respect to nadir experiences. Only Maslow (1954, 1962a) has reported summary data on these groups and he has exclusively emphasized peak experiences. Essentially, age as a variable is an unknown with respect to nadir experiences and their aftereffects.

Further, the studies on young people conflict with respect to the data on frequency of nadir and peak reports in response to questions about intense experiences. Margoshes and Litt (1966) report normal Ss as giving peak over nadir reports in a ratio of about 2 to 1 (58 peaks to 30 nadirs) when asked to report their most vivid experiences. Yet, Lynch (1968, p. 49) reports that "the frequency of reported

intense experiences judged Suffering is significantly greater than the number of experiences judged Pleasurable." Analysis of his raw data indicates that virtually all of the excess nadir experiences were contributed from Ss in the 18-25 age range while the remaining age range split practically 50-50 in terms of peaks and nadirs. There is no readily apparent reason for the contradictory results. It seems unlikely that the slightly different terms used in these studies could have produced these differences.

Sex differences (when reported) do not seem to be significantly related to such factors as frequency of intense negative or positive experiences, duration of negative and positive intense experiences, or differential aftereffects of such experiences. There is a report of sex differences with respect to the frequency of the presence of a helping person during such episodes (McKenzie, 1967). Although not reported by Lynch (1968) his raw data suggests that males over 25 report fewer peak experiences than females over 25. Again, the limited age ranges in the studies reported leaves open the question of significant sex differences, particularly in view of the sex role functions which are age related in the American society.

Finally, only one study (Lynch, 1968) presents information relating effects of intense experiences and self-esteem

(self-concept). It would be desirable to have more data on this relationship in terms of self-actualization and nadir experiences and aftereffects.

Statement of the Problem

This study focuses on nadir experiences and their relationship to age, sex, and degree of self-actualization. To facilitate the stating of specific hypotheses a model will be developed from which inferences concerning these factors can be drawn to be tested. Maslow (1954, 1962a) has theorized that self-actualization is a need, when an individual is successful in gratifying all other needs to a sufficient degree pressure for self-actualization begins to demand attention. The process of satisfying needs below self-actualization requires some discussion.

In the American society, most people (certainly not all) manage to satisfy physiological needs sufficiently without undue stress. It is somewhat harder to generalize about the second group of needs, safety and security. Yet even this class of needs seems to be fairly well taken care of for many people in the U.S. The next class of needs, love and belongingness, seems to be a major concern for most people, particularly if one is to judge from the apparent power of the various media to hold the attention of large audiences with tales

featuring these themes. The next class of needs, those of esteem, is also a major focus of attention for most of the population. That is, many people seem to be struggling with these two classes of needs. Both classes require effort and time for gratification to a sufficient degree to permit the emergence of self-actualization needs.

From an individual viewpoint the application of effort over time in order to satisfy these needs proceeds through the course of a life cycle. This need cycle seems to be imbedded in the societal institutions and cultural norms. Roughly speaking, a person achieves physical maturity between 16 and 20 years of age. Attention to physiological needs and safety recedes for this hypothetical average citizen with the advent of independence around the age of 21. Typically, family formation, pursuit of educational goals or a job, and initial participation as a citizen in the community begin during the early twenties to mid-twenties. Pursuit of love and esteem goals often occupies the individual during the next several decades until these are being sufficiently satisfied. In the case of women, traditionally the roles of wife and mother have demanded the rearing of a family with consequent commitment over time to achieve the recognition and sense of satisfaction derived from successfully performing

this role. Alternately, career women have faced a situation similar to that usual for the male which entails developing some group of skills or talents related to the world of work to a sufficient degree that one becomes self-confident and receives acknowledgment from colleagues. If a male takes the path of fatherhood to achieve satisfaction of these needs he too must spend the time and effort as discussed for women.

The importance of time seems readily apparent with respect to need satisfaction. One might hypothesize a model of self-actualization which is related to time which translates to age for an individual. Not that only certain age individuals will be able to become self-actualized but rather, as a general rule individuals will require a certain amount of time to satisfy their lower order needs prior to dealing with needs of self-actualization.

Self-actualization itself is conceived as both a push and a desire of the individual to develop his capacities and potentials by growing from within rather than by allowing himself to be shaped from without. Peak experiences seem to be directly related to this process and be a required condition of it also. That is, the occurrence of a peak experience leads to a greater sense of self, which in turn, leads to a greater likelihood of having peak experiences, which further aids in self-integration. This cyclical process is similar

at first glance to the requirements for learning some skills like roller skating or bicycle riding, where one tries until suddenly an episode occurs in which the "knack" is caught. This brief breakthrough leads to more confidence and further efforts which leads to more awareness of the "feel" of the act which engenders more skill in an increasing cycle of proficiency.

This analogy is of limited value in describing the relationship of peak experiences to self-actualization because the process of the latter is an emergent one in which the triggering of a peak experience occurs without the volition (at least consciously) of the individual. Further, there are two different aspects of the connection between self-actualization and peak episodes. First, it is possible for what might be termed "limited effect" peak experiences to occur. These can take place when an individual briefly achieves a sufficient level of satisfaction of lower order needs so as to be able to experience a peak episode. A second process is to be distinguished, in which the individual is satisfying lower order needs sufficiently on a generally consistent basis so as to be experiencing the emergence of self-actualization needs as a frequent or general state. In this latter situation, the occurrence of a peak experience is likely (or may be so posited) to have the effect of creating

in the person greater awareness of and satisfaction of these needs of self-actualization, which in turn leads to an increased frequency of peak experiences subsequently.

That is, in the first case or mode of experiencing, the individual may have briefly satisfied lower order needs (e.g., the individual may have achieved a notable success such as promotion on the job, completion of a project, or received an award of merit, which leads to an immediate increase in esteem). Assuming that love, security, and physiological needs are all being satisfactorily met, such an individual would be in a position to experience a peak (no attempt to specify any special conditions regarding such an actual peak is being made, merely the pre-conditions for such a possibility). However, if this individual experiences a peak episode the event would not necessarily result in the person's attaining a more consistent level of self-actualization or increased likelihood of more peaks. This is because the satisfaction of lower order needs (in this example, esteem needs) was only momentary or of limited duration; sort of the flush of achieving which produces a surge of esteem, but which then fades or ebbs, leaving the necessity of continuing the development of the structures and processes which will provide for a relatively consistent level of satisfaction of lower order needs (esteem in this example). Thus a peak

episode in this situation will not lead to a change of the sort described earlier in this presentation (see page 8 for Maslow's list of characteristics). The peak experience will, so to speak, be encapsulated as a memory of a pleasant or unusually good experience as the person's attention is again directed to prepotent lower order need satisfaction.

If, on the other hand, as is presumed for the second case or mode of experiencing, the individual is in a position of having established structures and processes which are fairly consistently enabling him to sufficiently satisfy lower order needs, then, by the theory, self-actualization needs become prepotent (emerge). In this state, if a peak episode occurs the effect is hypothesized to move the person into a mode of experiencing that is more self-actualized and which in turn, enhances the likelihood of more frequent peak episodes, which in turn leads to greater self-actualization.

Thus, the relationship between peak episodes and self-actualization seems to be predicated on the previous history and current motivational state of the person (Maslow 1954, 1962a). One might therefore posit a threshold zone or region in describing the hierarchy of needs. When an individual satisfies the lower order needs consistently and sufficiently the person moves into the zone of potential self-actualization. When a person is in this region (condition) and a peak

experience occurs it tends to carry the person into self-actualization processes and this increases, in turn, the likelihood of more peak episodes. If a peak episode occurs when the individual is below this threshold zone, it does not necessarily move the person into greater consistent self-actualization but may become encapsulated as a pleasant memory as lower order needs reassert dominance with respect to the need hierarchy.

The occurrence of peak experiences seems to result from an inner state of the person in conjunction with a benign set of circumstances, based on Maslow's descriptions (1962b, p. 11).

> Sometimes I am tempted to think that almost any situation where perfection can be attained, or hope fulfilled, or perfect gratification reached, or where everything has gone smoothly, can produce in some people, at some times, a peak-experience. These can be very humble areas of life or of the workaday world; or the situation may have been repeated a thousand times before without producing a peak-experience.
>
> For instance, a young mother scurrying around her kitchen and getting breakfast for her husband and young children. The sun was streaming in, the children clean and nicely dressed, were chattering as they ate. The husband was casually playing with the children; but as she looked at them she was suddenly so overwhelmed with their beauty and her great love for them, and her feeling of good fortune, that she went into a peak-experience.
>
> A young man working his way through medical school by drumming in a jazz band reported

> years later, that in all his drumming he had three peaks when he suddenly felt like a great drummer and his performance was perfect.
>
> A hostess after a dinner party where everything had gone perfectly and it had been a fine evening, said good-bye to her last guest, sat down in a chair, looked around at the mess, and went into a peak of great happiness and exhilaration.

Maslow observes that "peaks are not planned or brought about by design; they happen. We are surprised by joy" (1962a, p. 106). But it does seem that they happen naturally when a person is ready in the sense that other needs have been taken care of and now the individual is open to this sort of experience.

Nadir experiences, on the other hand, are usually catastrophic in nature, occurring without regard to the readiness or state of the individual. For example, death, illness, or separation often precipitate nadir experiences whether the individual is ready or not. While the reported effects of peak experiences is consistently beneficial, nadirs have differential benefits as reported to date. If one hypothesizes a threshold zone of potential self-actualization, then the differential effects of nadirs might be explained.

A nadir of extreme emotion might be beneficial to an individual in the potential zone or threshold region of self-actualization. If a person is below this region (not

in the necessary state), the effect might be to close off experiencing and delay the movement to self-actualization. Extreme emotion of a nadir sort is assumed to be beneficial if a person is, so to speak, ready and able to handle it (in the zone) and possibly harmful or neutral if one is not ready to deal with it in terms of the self-actualization process. If a person is already self-actualized to some degree (beyond the zone of potential), then the assumption is that the nadir experience would be taken in stride and possibly be beneficial since one in this process or state is open to experience in general and better able to handle such experiences.

The model presented then, is one of time related gratification of hierarchically arranged classes of needs, with movement towards a threshold zone in which the individual may react differentially to peak and nadir experiences. (Note that it is possible to imagine a situation in which a peak experience could be closing rather than moving the person into greater self-actualization. If for example, a person's initial peak experience was followed directly with a nadir, possibly the result of say an accident, after the peak, in which a friend was killed, etc., then the individual might react by closing off experiences that would remind him of this episode and inhibit self-actualization. This seems

to be rare, however.)

Peak experiences are more common to the flow of development towards self-actualization while nadir events are externally determined and may or may not be beneficial in the person's development depending on where the person is situated in the need hierarcy (gratifications) at the time the event occurs. On the following page is a pictoral representation of the model.

Specific Questions of the Study

Throughout this and the remaining sections the following terms and symbols will be used.

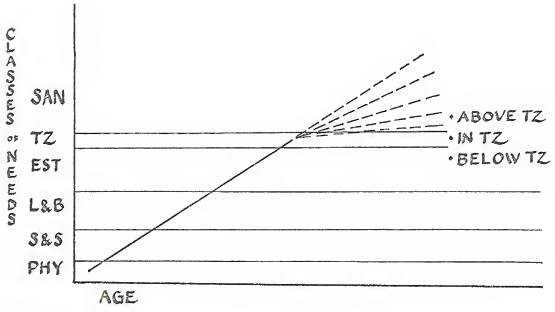
1. Peak experience (PE)- - -a subjective experiencing of what is subjectively recognized to be one of the high points of live, one of the most exciting, rich and fulfilling experiences which the person has ever had.

2. Nadir experience (NE) - -a subjective experiencing of what is subjectively recognized to be one of the lowest points of life, one of the worst, most unpleasant and harrowing experiences of the person's life.

3. Vivid experience- - - - -one of the above types of experience.

4. Opening experience (O)- -an experience which leads

Model of Nadir Experience Aftereffects



Legend - - -

PHY--physiological needs
L&B--love/belongingness needs
SAN--self-actualization needs
TZ---threshold zone of self-actualization
S&S--safety/security needs
EST--esteem needs
NE---nadir experience
PE---peak experience

_____ solid line represents gratification of needs through effort and time (largely determined by culture/society).

---- broken line represents possible gratification of SAN through effort and time (largely idiosyncratic).

In TZ- NE occuring in threshold zone has opening after-effects and moves person into self-actualization as does PE).

Below TZ- NE occuring below TZ has closing aftereffects (PE occuring here is not likely to move person into self-actualization but is related to satisfaction of lower order immediate needs rather than SAN).

Above TZ- NE occuring above TZ has opening or neutral after-effects (as does PE-condition of being self-actualized).

Figure 1

to a S reporting that he or she feels closer to people, is more tolerant of others faults, or has become more aware of the meaning of life.

5. Closing experience (C)- -an experience which leads to a S reporting that he or she feels insecure, unhappy or depressed, distrusts people more, or has tried to repress the experience.

6. Young (Y) - - - - - - - -individuals in the general category of young adults- see Subjects section of Procedures discussion for details.

7. Middle (M) - - - - - - -individuals in the mid-range of life generally- see Subjects section of Procedures discussion for details.

8. Older (E) - - - - - - - -individuals in the latter stages of life generally- see Subjects section of Procedures discussion for details.

9. Self-actualizers (SA) - -used as a term to designate individuals in the study with regard to their POI scores as described in Methods section of Procedures discussion.

In reference to the model developed the first hypothesis which is to be investigated deals with the possible relationship of age and the degree of self-actualization.

1. In a randomly selected group of individuals (normal) the degree of self-actualization will vary directly with age.

A second hypothesis springs from the model developed:

2. When asked to describe their most vivid experience, different age groups of Ss will report negative and positive experiences in different proportions; young (Y) Ss reporting more NE as "most vivid," middle (M) age range Ss reporting NE and PE in about equal proportion as "most vivid," and older (E) Ss reporting more PE as "most vivid."

This hypothesis is concerned with the valence of an Ss initial response to a request to recall his or her "most vivid" experience in life. Qualitative differences in both positive and negative experiences are suggested from the model. It is assumed that these will be reflected in the distribution of "most vivid" experience reports by age groups. Younger Ss will, as a group, experience fewer positive events or episodes than enhance personal growth in a self-actualized manner. Rather, positive reports in this group are most likely to be recollections of events that were generally pleasant episodes, or of what might be termed "limited effect" peak experiences. However, this group is likely to experience intense NE from external circumstances or from efforts to satisfy lower order needs and changes in living

patterns associated with this age. These experiences will be more impactful and intense since they are most often associated with catastrophic circumstances (loss of important figures, friends, illness, etc., or, failure to satisfy prepotent lower order needs).

The converse is predicted for older (E) Ss. It is assumed that, as a group, they are more likely to have had more peak experiences with greater likelihood of their being related to higher levels of self-actualization. These episodes which occur in benign circumstances and as an internal process of fruition are reported to be very significant and dramatic for individuals. Since this process is assumed to be more in the natural order compared to the chance occurrence of many nadir events, and is also assumed to be related to age, it is predicted that more (E) group members will report positive experiences as their "most vivid" experience. In the (M) group, there is no reason to predict a greater number of peak or nadir experiences as "most vivid" responses. By virtue of the age range (mid-life) the possibility of experiencing in a self-actualizing mode is present; hence a prediction of equal reports of peak and nadir experiences.

Aftereffects of NE may be evaluated in terms of both an internal and an external reference point. In the first approach, Ss self-evaluate their experiences; the second

approach utilizes judges. Both approaches were used in this study.

3. When asked to choose between reported positive and negative experiences with respect to which was the most beneficial to them, Ss' choices will vary as a function of age and degree of self-actualization.

   a. In the young (Y) age group, high self-actualizing Ss will report a higher proportion of negative experiences as more beneficial, while low self-actualizing Ss will report a higher proportion of positive experiences as more beneficial.

   b. In the middle (M) age group, high self-actualizing Ss will select positive experiences and negative experiences in about equal proportion, while low self-actualizing Ss will report more positive experiences.

   c. In the older (E) age group, high self-actualizing Ss will report a higher proportion of positive experiences as beneficial while low self-actualizing Ss will report more negative experiences.

This hypothesis derives from considering that the value of an experience depends upon the capacity to utilize it which in turn depends upon the individual's position with respect to the threshold zone (in the model). In the (Y) group most members will not be in this region and will report PE that are likely to be merely pleasant events. Relatively, these are not as likely to have as much impact in their lives as

nadir events resulting from external catastrophes or unsuccessful efforts to gratify their lower order needs (recall the connative episodes commonly attributed to this group). However, when choosing between reported vivid experiences in terms of benefit, those Ss who are higher self-actualizers will tend to report these intense NE as beneficial (growth enhancing). Those who are lower self-actualizers will tend to see these NE as unpleasant and stressful (without enhanced self-actualization). They will report PE more often as beneficial, reflecting primarily, a choice for the lesser stressful experience, given their position in the need hierarchy. Hence the proposition that within the (Y) group, those who are high SA, will report a larger proportion of NE versus PE as beneficial with the reverse of the proportion for lower SA in this age group.

In the middle (M) group, high self-actualizers will be more likely to report both NE and PE as beneficial since their range of experiences are presumed to include extremes of both types (refer to possible position in the model of need hierarchy and time). However, low self-actualizers in the (M) group will, like the low self-actualizers in the (Y) group, not be in a position to utilize NE and will report PE as more beneficial, proportionately.

In the (E) group, Ss will have had the widest potential

range of experiences and opportunities to satisfy lower order needs. Hence, in this group, "genuine" PE are likely to be intense and furnish self-integration in a benign setting. Compared to NE, these PE are assumed to be seen as more beneficial in the lives of Ss who are high self-actualizers in this group. Low self-actualizers in this group are assumed to be concerned with choosing between NE and PE as "more beneficial" in a different manner than the low self-actualizers from the (Y) and (M) groups. These individuals are presumed to face the fact that their lives have been either unsatisfying or unfulfilling (low SA). They cannot, as in the other age groups depend upon future hopes to any major degree and are likely to be faced with comparisons with others of their age who are more self-actualizing. They are likely to construe their lives as reflecting the best of bad circumstances (luck), or as being the best adjustment to particularly unpleasant or unfortunate episodes. It is hypothesized that for this group NE will be important to justify a life position or stance and provide meaning to existence. Hence the assumption is that this group (low SA) will select a greater proportion of NE as more beneficial since it will be consistent with their low level of self-actualization (limited growth) and furnish a basis for rationalizing their position.

External evaluation of NE as either opening (O) or closing (C) was accomplished by a panel of four trained judges.

4. The frequency of NE judged O will vary with the age of the Ss, Y having the fewest and E the most.

5. The number of NE classified as O will be higher for high self-actualizers compared to low self-actualizers in all age groups.

The above derives from the model's depiction of increasing self-actualization potential with increasing age. The potential of a NE aftereffect to make a person more open is increasingly likely to occur as one enters or exceeds the threshold zone. If one is either in or beyond the zone the effects are assumed to be neutral or opening (hypothesis five).

Finally, sex differences are to be examined for all of the above hypotheses under the most parsimonious approach.

6. With respect to the previous five hypotheses, no sex differences will be found.

The procedures for testing the specific null hypotheses corresponding to each of the above hypotheses are outlined in the following section.

Summary

Maslow's (1954) theoretical formulation of a dynamic

hierarchical motivational structure in man does not deal fully with the factors of age and the aftereffects of nadir experiences in man's progress toward self-actualization. For the present study a model has been proposed suggesting that the factors of age, self-actualization and nadir experience aftereffects are related through time. For this model six hypotheses have been generated and were tested using methods and techniques discussed in the following section.

CHAPTER II

PROCEDURES

Design of the Study

A cross-sectional approach, utilizing written responses to open ended questions and a self-report measure of self-actualization, was used in this study. Three different chronological age ranges were selected to provide three groups of Ss positioned along the age cycle at points roughly demarcating three periods of adulthood: early, middle, and old. Thus, comparison of the responses of these groups provides a basis for evaluating the proposed model both quantitatively and qualitatively.

The decision to use open-ended responses was based on the studies reviewed and the following reasoning. Previous research has established this method and developed procedures which can be reliably used. This enables comparison of the current study with existing studies. This method of obtaining data is feasible, in contrast to such alternate approaches as actually being present during vivid experiences and gathering data directly; collecting field data from friends, relatives, and associates of individuals reporting

such episodes to validate and describe them; or using more esoteric techniques, such as hypnotic recall.

The self-report instrument chosen for the study is the Personality Orientation Inventory (POI) developed by E. L. Shostrom (1962). It consists of 150 forced choice items presented as short statements which the respondent answers from his or her viewpoint. According to Buros (1970) it provides a valid measure of values, attitudes, and behavior relevant to Maslow's concept of the self-actualizing person (see also validity studies by Shostrom, 1962; Shostrom & Knapp, 1966; Fox, Knapp & Michael, 1968).

The I (Inner Support) scale of 127 items, is designed to measure whether an individual's mode of reaction is characteristically "self" oriented or "other" oriented. Inner, or self, directed individuals are guided primarily by internalized principles and motivations while other directed persons are to a great extent influenced by their peer group or other external forces. The T_c (Time Competence) scale of 23 items, measures the degree to which the individual lives in the present as contrasted with the past or future. The time competent person lives primarily in the present with full awareness, contact and full feeling reactivity while the time incompetent person lives primarily in the past, with guilts, regrets, and resentments, and/or in the future,

with idealized goals, plans, expectations, predictions and fears.

These two scales were used to measure degree of self-actualization by combining the raw scores from individuals in the study. This procedure is based on a study by Damm (1969) which computed intercorrelations between several weighted indices and POI scales to determine the relative effectiveness of various methods of combining POI scales to form an overall measure of self-actualization. The highest average correlation between the overall indices studied and POI scales was obtained by using a simple combination of raw scores from the I and T_c scales. No significant increase in predictability was obtained by converting raw score data to standard scores before combining scales. Klavetter and Magar (1967) report reliability coefficients of .77 and .71 for the I (support) scale and the T_c (time competence) scale, respectively.

In addition to taking the POI, each S was asked to complete a booklet (Appendix A) which was constructed so as to elicit both a negative and a positive experience recall, descriptions of aftereffects of these experiences, and a selection of one of them as more beneficial. Included in this booklet was a brief questionnaire about the respondent's health, financial position, education, marital status, etc.

Participants in the study were assured of absolute confidentiality and were anonymous with respect to identifying themselves directly in any materials.

Subjects

As stated above, three different portions of the chronological age cycle were selected as a means for evaluating the proposed model. The first group, designated as Y, included Ss from 17 to 26 years of age (an interval of 9 years). The second group referred to as M, included ages 37 to 46 (an interval of 9 years). The third group, identified as E, included Ss from 62 to 71 (an interval of 9 years). These intervals were chosen after surveying the general literature on development, typical demographic trends in the U. S., and considering the proposed model from which hypotheses were derived.

Ss were drawn from the San Francisco Bay area. They were contacted primarily through various educational facilities in this region. Additionally, some participants were drawn from clubs, associations, and groups particularly pertinant to one of the age groups, such as senior citizens groups, or retirement centers. The range of educational facilities included city colleges, state universities, private colleges, and special programs. Every effort was made to obtain as

wide a range of Ss as feasible to provide random sampling with respect to such dimensions as health, financial status, race, education, sex, age, and marital status.

The number of respondents varied by age category because of the procedure by which Ss were contacted. In some cases, as with the (Y) group, a large number of Ss were available at a single administration of the booklet and POI. In other cases, contact occurred on a small group basis or individually. Additionally, Ss in the M and E categories were generally more reluctant to participate. This seemed in large measure because of unfamiliarity with ideas and procedures related to psychological research compared to the Y group. For purposes of assessing the comparability of the groups each S was asked for personal information such as status of health, finances, education, etc. (See Analysis of Data for descriptive statistics).

Method

Each S was asked to complete both the POI and the booklet (Appendix A). The order of completing the booklet and POI was counterbalanced as were the references to negative and positive experiences in the booklets.

With respect to the booklet, each S began by completing the General Information Questions (socioeconomic data).

Then, the S was instructed to describe briefly his or her most vivid or intense experience (Ss were specifically instructed before beginning this task, not to look ahead or to work out of order.) Next, a request was made for a description of the aftereffects of this experience. Then, the S was asked to designate the experience just described (not the aftereffect) as either positive or negative (Page G of the booklet). After designating it either positive or negative, the S was instructed to then write a brief description of the most intense experience which he or she could recall of the opposite valence to the first one. That is, if the first described experience was a negative one, the second was to be a positive. If the first was a positive, the second was to be negative. Again, a request for the aftereffect was made. Then, on Page M of the booklet, the S was asked to choose between the two experiences reported in terms of which was more beneficial in helping him or her become a better person.

Each completed packet (which consisted of the booklet and POI answer sheet) was treated as follows: The POI answer sheet was scored for I and T_c scales with a hand scoring stencil and double checked. Then the negative aftereffect was typed on a 6 x 9 card with an identifying numeral keyed to the booklet in the upper right hand corner.

Data from the booklet was tabulated and recorded.

The aftereffect cards were submitted to four judges who ranged in age from 26 to 34. Two were males, one a film maker and the other an illustrator; two were females, one an early childhood teacher and the other an actress and worker in general media. This panel of judges was asked to classify the descriptions of aftereffects as either Opening (O) or Closing (C) as defined in the Key to Symbols of Abbreviations, page ix . Instructions for the judges are shown in Appendix B.

Because of possible bias resulting from their knowing the nature of the reported experience, only aftereffects were presented to the judges. Each judge independently rated all 236 NE aftereffects as either O or C. These ratings were then combined and the decision rule followed was agreement by at least three of the four judges. After comparing the categorizations of each judge, those aftereffects which did not meet this criterion were separated from the rest of the cards and given to the judges for reclassification. Any cards remaining after this sorting as not clearly O or C were examined with the judges in an informal group meeting in an effort to clarify any special language usage or references to the experience description.

All but 17 of the 236 aftereffects were classified by

the judges initially. These were returned to the judges and each reclassified them, resulting in agreement on all but 7 of them. In an informal group meeting, these seven were discussed to clarify use of language, references, and possible meaning, then classified. Thus all 236 aftereffects were finally sorted in terms of either O or C.

Finally, the top 15 and bottom 15 scores from the distribution of POI scores for each age category were identified. For each group (Y, M, and E) the highest 15 scores were designated as high self-actualizers (HI SA) and the lowest 15 scores were designated as low self-actualizers (LO SA). Since the highest and lowest scores were identified from the POI frequency distribution, tie scores among several Ss could result in more than 15 highest and lowest scores. In this event, the most extreme scores were taken out of the pool until exactly 15 Ss remained for each group and these were designated as HI SA or LO SA Ss, thereby producing a total of 90 such Ss (45 HI SA and 45 LO SA).

Analysis of the Data

This section contains descriptions of the type of statistical tests used to evaluate the six hypotheses.

Null hypothesis 1

The mean of the POI scores for Y, M, and E age categories are equal.

Statistically, this hypothesis was evaluated by a single classification analysis of variance as outlined by Winer (1962, p. 98). Additionally a qualitative analysis was performed consisting of a plot of the three mean values and a rough estimate of the linear curve best fitted to these three points for graphic comparison with the proposed model.

Null hypothesis 2

Age category and frequency of NE reports as "most vivid experience" are not systematically related.

Since Ss were free to respond with either a NE or PE to the initial request for their "most vivid experience" it is assumed that the frequencies of first experience reports can be used to evaluate this hypothesis. Following Guilford (1965, p. 230) a chi-square table (3x2) was developed with three categories of Age. Each of these were divided into F (female) and M (male), and two categories of Most Vivid Experience (NE and PE). Thus a single analysis enables testing of hypothesis 2 and also a test of sex differences (hypothesis 6).

Also, a linear plot of the proportion of NE to PE reports was made to graphically examine the direction of the

linear curve and compare the observed proportions with those predicted in hypothesis 2, as stated in Chapter I.

Null hypothesis 3

> Age category and degree of self-actualization (POI scores) are not systematically related to the frequency with which NE are selected by Ss as "more beneficial".

Again, following Guilford (1965) a chi-square analysis was used to evaluate this hypothesis. A 2 x 6 table consisting of one category of the combination of Age and Degree of Self-actualization, and another of More Beneficial Experience (NE or PE) was constructed. Data for this analysis was restricted to the responses of the highest and lowest 15 POI scores from each category (HI SA and LO SA Ss). Also, the proportion of NE to PE selected as more beneficial in each age group by HI SA and LO SA Ss was examined qualitatively.

Null hypothesis 4

> Age category and frequency of NE aftereffects classified by judges as either O or C are not systematically related.

A chi-square analysis based upon Guilford (1965) was used to evaluate this hypothesis statistically. Sex differences were also included in this evaluation by constructing a 6 x 2 matrix with one factor of Age (sub categories of Sex)

and the other of Aftereffect (O or C). Also, the proportion of NE aftereffects judged to be O as opposed to C were examined for the age groups for qualitative evaluation of hypothesis 4.

Null hypothesis 5

> The degree of self-actualization and the frequency of Judged Aftereffects classified as either O or C are not systematically related.

Following Guilford (1965) a series of three chi-square analyses consisting of 2 x 2 matrices, one for each age category was performed. That is, each group of HI SA and LO SA Ss within the Y, M and E categories was examined. Also, the proportion of NE selected as O by the judges for each age category was examined qualitatively.

Null hypothesis 6

> With respect to the previous five hypotheses there are no sex differences.

For the evaluation of no sex differences in POI scores by age (hypotheses 1) three t tests were performed, one for each age category, based upon methods in Guilford (1965).

Sex differences for hypothesis 2 were included in the chi-square analysis already described. For the third hypothesis two chi-square matrices were constructed, one for HI SA and one for LO SA Ss. Each of these tables was a

2 x 2 matrix with one factor of Sex and the other of More Beneficial Experience. Sex differences for hypothesis 4 were included in the chi-square analysis already described. Sex differences for hypothesis 5 were evaluated by three (2 x 2) chi-square tables (Guilford, 1965). Results of these statistical and qualitative tests are given in the following chapter.

CHAPTER III

RESULTS

Chapter I outlined a proposed model from which six hypotheses were derived. Chapter II specified the methods of obtaining data and analyzing the information gathered both quantitatively (statistical tests) and qualitatively (observational comparisons). In this section population characteristics, the data collected and the results of the analyses will be given, following the plan of discussing each test or set of tests for each hypothesis.

Characteristics of the Data

A total of 256 Ss participated in the study. Six booklets were not returned to the author as a result of either being lost, destroyed, or misplaced by the Ss to whom they were given. Of the 256 returned, 236 were properly completed with descriptions of both experiences and aftereffects for a positive and negative episode plus a completed POI answer sheet. Six booklets were not used in the study because they lacked completed POI answer sheets, were unclear in description of the events or, in one case, had been assembled

incorrectly making the response suspect. Fourteen booklets contained POI scores but failed to provide sufficient material with respect to a NE or aftereffect. These fourteen booklets were used in those portions of the study dealing with other than NE aftereffects. Table 1 represents the distribution of responses for each age group category.

Table 2 provides the distribution of ages within each category for the 250 Ss used in this study (F = females and M = males).

For the purposes of comparing the age groups on the variables of age, health, financial status and education the following transformation was performed. The self-ratings on the questions of health and finance were the categories Above Average, Average and Below Average and were converted to numbers 1, 2 and 3 respectively. Education was tabulated in terms of grades completed. Averages were then established for the dimensions of age, health, financial status, and education. The average values are presented in Table 3.

The age groups are clearly positioned as planned with the average values being in the mid-range for each age category. Young males report themselves somewhat healthier than any other group but this seems negligible given the self-ratings of the older group. Finances reflect in part the limited income potential of younger people in the study,

TABLE 1

Distribution of Responses

	Young (Y) Ages 17-26			Middle (M) Ages 37-46			Old (E) Ages 62-71			
	F	M	Comb.	F	M	Comb.	F	M	Comb.	Total
Complete	78	56	134	25	25	50	26	26	52	236
Incomplete	2	2	4	2	2	4	3	3	6	14
Sub-total.	80	58	138	27	27	54	29	29	58	250
Not Usable	4	1	5	1	0	1	0	0	0	6
Total	84	59	143	28	27	27	29	29	58	256

TABLE 2

Distribution by Age

Young (Y)				Middle (M)				Old (E)			
Yrs.	F	M	Comb.	Yrs.	F	M	Comb.	Yrs.	F	M	Comb.
17	1	0	1	37	5	7	12	62	4	3	7
18	11	9	20	38	5	2	7	63	6	2	8
19	24	14	38	39	6	5	11	64	4	4	8
20	12	15	27	40	1	5	6	65	4	1	5
21	11	4	15	41	2	2	4	66	4	2	6
22	6	0	6	42	0	2	2	67	1	2	3
23	4	4	8	43	2	1	3	68	4	1	5
24	8	7	15	44	2	2	4	69	0	6	6
25	3	5	8	45	4	1	5	70	2	8	10
	80	58	138		27	27	54		29	29	58

TABLE 3

Comparison of Age Categories on Age, Health, Finance, and Education
(Average Values)

	Sex	Age	Health	Finance	Education
	F	20.2	1.7	2.1	13.2
Young (Y)	M	20.6	1.4	2.0	13.3
Comb.		20.4	1.6	2.0	13.3
	F	40.2	1.7	1.7	13.2
Middle (M)	M	40.0	1.7	2.1	14.7
Comb.		40.1	1.7	1.9	13.9
	F	65.0	1.5	2.0	14.0
Old (E)	M	64.5	1.6	1.6	15.0
Comb.		64.8	1.5	1.6	14.5

most of whom were full time students. The lower level of financial status for middle age males is a reflection of several Ss being unemployed. The highest ratings of Finance occur in the E group, yet these are not particularly divergent. The difference in education are not remarkable. The above information indicates no reason to consider the sample as other than random on the factors displayed.

POI scores for the 250 Ss were derived from the combined raw scores of the I and T_c scales. These scores ranged from a low of 65 to a high of 131. Table 4 represents the distribution of these scores.

Mean POI scores and their variances are given in Table 5.

The population characteristics in each age group appear to be sufficiently comparable and the range of POI scores broad enough to warrant testing the six hypotheses developed from the model proposed in Chapter I.

The range of NE reports included descriptions of death, separation, divorce, accidents, failures, abortions, difficulties in childbirth, family disagreements, unpleasant incidents with police or other authorities, etc. The after-effects of these experiences were described separately and some typical examples are given below.

TABLE 4

Distribution of POI Scores
(Combined Scale I and Scale T_c Scores)

	Frequencies								
	Young			Middle			Old		
POI Scores	F	M	Comb.	F	M	Comb.	F	M	Comb.
130-134	0	0	0	0	1	1	0	0	0
125-129	0	0	0	1	0	1	0	0	0
120-124	2	1	3	0	0	0	1	0	1
115-119	7	3	10	2	2	4	2	3	5
110-114	7	2	9	1	6	7	6	6	12
105-109	9	6	15	5	4	9	6	6	12
100-104	14	3	17	4	4	8	5	5	10
95-99	10	15	25	4	3	7	4	4	8
90-94	14	9	23	7	1	8	1	1	2
85-89	5	4	9	1	4	5	2	2	4
80-84	6	4	10	1	1	2	1	2	3
75-79	3	7	10	0	1	1	1	0	1
70-74	2	2	4	1	0	1	0	0	0
65-70	1	2	3	0	0	0	0	0	0
	80	56	136	27	27	54	29	29	58

TABLE 5

POI Means and Variances

Age	Category	Mean	Variance
Young	F	98.2	151.79
	M	93.5	175.28
	Comb.	96.2	165.77
Middle	F	99.7	147.1
	M	102.7	101.2
	Comb.	101.2	150.0
Old	F	103.4	115.7
	M	103.0	94.8
	Comb.	103.2	103.5

It would be impossible to know how many ways this affected my life. Most important, I learned the meaning of finite and infinite--from there my spiritual self began to grow and has led me in many directions. I still don't know the answer and I don't think its necessary that I do. I have the basis for a foundation now and plan to live my life accordingly. My mind is open--my basic beliefs in myself and my values are very important to me now. I believe in myself.

* * * * *

I was very disappointed. I was hurt; I was very reserved, very introverted for a long time. I had to pay off the bank loan--it was a big loss.

* * * * *

We had been married just two years. As a result of this incident I realized how deeply I loved and needed her and also that only the two of us together could overcome our trouble. The in-law difficulty was overcome by our new understanding of our own unity and devotion to each other first, and anyone else was second. We even got a little spanial puppy to ease the heartbreak of the loss of the child. I saw the baby at the funeral parlor and she was a perfect, beautiful child and the loss to us seemed unfair...

* * * * *

I became a loner, keeping all things to myself. Incapable of asking for help, I solved all problems myself as best I could. I still feel ill at ease with people.

* * * * *

From this point onwards I knew my Dad could be very wrong and easily fooled. I believe that from that point on I have always questioned value judgments made by teachers, preachers, philosphers, and any authority self proclaimed or otherwise.

The result has been of value--because it led to my going to original sources and making my own evaluations. For example, when I read about Marx--I then read Marx directly. When a student I used to hear a great deal about Ruskin. I read Ruskin--found out that most of them apparently quoted Ruskin with little knowledge of him and so on for the last 50 years.

* * * * *

The sudden death caused a shock, a feeling of loss. The marriage had not been a happy one, for which I did not blame myself. But still, I had some guilt feelings; thoughts and feelings of "Why?" The years of unhappiness, the sudden end.

* * * * *

I was very crushed that anything like what I share with my parents could be questioned. I cryed a lot. My husband told me he didn't want to live with a "nine year old child". I should explain what he objects to. WE are a kissing family and a touching family. My father puts his arm around me and I kiss his cheek. My mother and I may sit and hold hands while we visit. This type of thing. My husband comes from a family that shows no affections. I can understand that--why can't he understand me? What did I do about it? I told my mother and we agreed that it would be best for my marriage if we tried to behave differently around my husband.

I did not tell my father, he would be too hurt to think his affection had been miscontrued. I just promised myself that I would have to be more stand-offish. But now, I feel resentful. Why should I have to put on a mask and not be myself just to please my husband? Why must I always be the one to have to give in?

* * * * *

It was strange; after that I sat down and just thought about--what?, I don't know just looking blank and thinking blank.

* * * * *

> Even now, after having related just briefly this experience I feel and increased pulse rate. It was a beautiful, very vivid, intense and frightening experience. This particular experience is outstanding even among my many other drug experiences. This particular experience increased my awareness in that in it I found (or thought I found) how intensely I could feel. However, only once since then have I ever experienced any of those feelings without drugs. I have not used drugs for a long time, and I feel very removed from the possibility of experiencing those feelings to that degree, but I feel as though I would be able to elevate myself naturally given the proper conditions. Knowing that is there really helps.

* * * * *

> The impact it had on me was how illness and death can change the whole appearance of a person. And it is frightening. But that also after he had suffered so long he was finally put at ease and peace.
>
> It made me realize death was not so frightening and it was a real thing. And that death can be peaceful; and very welcome at some point in life.
>
> The only thing it changed immensely was that he was to give me away when I married. My father gave me a away as tradition has it--and I knew my god-father was walking with us in spirit down the aisle.

As the examples above illustrate, the range of after-effects are classifiable in terms of the definitions given for Opening (O) and Closing (C).

In combining the ratings, there were five possible ways an aftereffect could be rated. Either all four judges agreed it was O or C, or, three of the four agreed it was either O or C. The fifth possibility was a tie with two

judges seeing the aftereffect as O and two seeing it as C. Thus, four out of the five possible outcomes met the classification criterion of agreement by three of the four judges.

Statistically, this can be treated in terms of a binomial distribution problem as outlined by Guilford (1965, p. 233). With an N = 236, and p = 4/5, q = 1/5, the expected number of agreements by chance at a .01 level of significance, is 201.62 or 202. The observed number of agreements was 219, well above the level needed for significance at the .01 level.

Having established the general character of the sample with respect to age, health, finances, education, POI scores, and experiences reported, let us turn to specific findings from testing the six hypotheses in both quantitative and qualitative ways.

Null hypothesis 1

The mean of the POI scores for (Y), (M) and (E) groups are equal. Table 6 summarizes the information used in testing this hypothesis.

Table 7 contains results of the analysis of variance (Winer, 1962).

Results indicate that the null hypothesis of no differences must be rejected since the F ratio is significant beyond the .01 level. Using data from Table 8, three comparisons of the means were made following the Z ratios

TABLE 6

Values used in Analysis of Variance
of Y, M, and E Group POI Scores

Group	N	Mean	Variance
Y	138	96.2	165.7
M	54	101.2	150.0
E	58	103.2	103.5

TABLE 7

Analysis of Variance (POI Scores)

Source of Variation	SS	df	MS	F
Treatments (Y, M, E)	2,357	2	1178.50	7.96*
Experimental Error	28,918	247	148.01	
Total	38,918	249		

*$F_{.99}$ (2, 247) = 4.71

TABLE 8

Data for Calculating $\bar{Z}$ Ratios
(Taken from POI Score Distribution)

Group	N	Mean	S.E.
Y	138	96.2	1.09
M	54	101.2	1.67
E	58	103.2	1.33

procedure given in Guilford (1965, p. 174). The results are summarized in Table 9.

As the results indicate, the Mean POI scores for the three groups compared with alpha equal to .01, show a significant difference between the Old (E) group and the Young (Y) group, an almost significant difference between the Middle (M) group and the Young (Y) group, and no difference between the Middle (M) and Old (E) group. Thus, based on POI scores, the level of self-actualization does increase with age and the null hypothesis of no differences must be rejected.

The mean POI scores for each age group are plotted in Figure 2 with an approximate linear curve fitted graphically to the three points. The direction and degree of slope of the curve are within the general limits of the model as depicted in Figure 1 (Chapter I). Thus the null hypothesis is rejected and hypothesis 1 as stated in Chapter 1 is accepted: Levels of self-actualization increase with age.

Null hypothesis 2

> Age and frequency of NE reported as "most vivid experience" are not systematically related.

A chi-square analysis (Guilford, 1965) was performed using the matrix presented in Table 10. The X^2 for the tabled frequencies is equal to 6.96. To test this value a

TABLE 9

Comparison of Mean POI Scores of Y, M and E Age Categories

Means	Difference	S.E. (of difference)	$\bar{z}$
E - Y	7.0	1.73	4.04*
M - Y	5.0	1.99	2.51
E - M	2.0	2.23	.89

Alpha = .01, $\bar{z}$ = 2.58

Self-actualization versus Age
(Mean POI scores by Age Category)

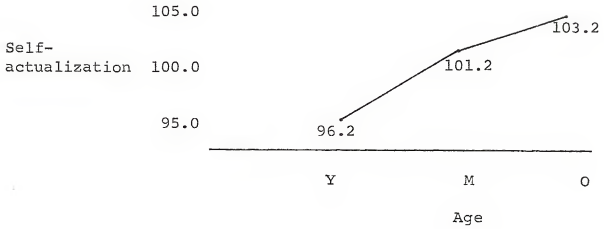


Figure 2

TABLE 10

Chi-square Matrix Comparing Age and Frequency of Most Vivid Experiences

Most Vivid Experience	Young (Y) F	M	(Middle (M) F	M	Old (E) F	M	Total
NE	48	32	15	14	9	12	130
PE	30	24	10	11	17	14	106
Total	78	56	25	25	26	26	236

total of 5 degrees of freedom are used to find the tabled value (Guilford, 1965) of 15.09 as the critical value for alpha equal to .01. Statistically the null hypothesis is accepted. That is, age and the frequency of reporting NE as most vivid are not related at a significant level.

Partial support for hypothesis 2 as stated in Chapter I is given by examination of the ratios of NE to total experiences reported as "most vivid." These proportions are presented in Table 11. While not statistically significant these proportions do support the prediction of higher incidence of NE being selected as "most vivid" by (Y) group members and fewer by both (M) and (E) group members.

Null hypothesis 3

> Age and degree of self-actualization are not systematically related to the frequency with which NE are selected as More Beneficial.

Following the procedure given in Guilford (1965, p. 242) a chi-square analysis was made using the matrix in Table 12. The critical value of X^2 for alpha equal to .01 with 5 degrees of freedom (Guilford, 1965) is 15.086. The X^2 value computed from the frequencies is equal to 6.2, which is below the critical value and therefore the null hypothesis is accepted.

The proportion of NE selected as More Beneficial is presented in Table 13. The proportions shown in this table

TABLE 11

Proportions of NE Selected as
Most Vivid Experience

Y	M	E
.60	.58	.40

TABLE 12

Chi-square Matrix of Factor of Age and Degree of Self-actualization Versus Frequency of NE as More Beneficial Experience

More Beneficial Experience	Young (Y) HI SA	Young (Y) LO SA	Middle (M) HI SA	Middle (M) LO SA	Old (E) HI SA	Old (E) LO SA	Total
NE	5	9	5	6	3	4	32
PE	10	6	10	9	12	11	58
Total	15	15	15	15	15	15	90

TABLE 13

Proportion of NE Selected as More Beneficial Experience

Young (Y)		Middle (M)		Old (E)	
HI SA	LO SA	HI SA	LO SA	HI SA	LO SA
.33	.60	.33	.40	.20	.27

lend little support, qualitatively to hypothesis 3 as stated in Chapter I.

Thus the null hypothesis must be accepted:

The combined factors of age and degree of self-actualization are not systematically related to choice of NE as the "more beneficial experience".

Null hypothesis 4

Age and frequency of judged experiences classified as Opening or Closing are not systematically related.

As outlined in Guilford (1965) a chi-square analysis was made using the matrix shown in Table 14. The critical value for X^2 when alpha = .01 and there are 5 degrees of freedom is 15.086. The computed X^2 value from the matrix was 3.84, which is not large enough to be statistically significant.

The null hypothesis must be accepted:

Age and the frequency of NE Aftereffects classified as Opening and are not systematically related.

The proportion of opening experiences with respect to the total for each Age category is plotted in Figure 3, with a rough approximation of the linear curve fitted graphically to these three points. Partial support for the hypothesis (Chapter I) is suggested in the increasing proportion of O experiences by Age, although it is not statistically significant.

TABLE 14

Chi-square Analysis of Age Versus Classification of NE Aftereffects

Judged Aftereffect	Young (Y) F	Y M	Middle (M) F	M M	Old (E) F	E M	Total
O	23	22	9	12	14	11	91
C	55	34	16	13	12	15	145
	78	56	25	25	26	26	236

Proportion of NE Classified as Opening
by Age Category (Y, M, E)

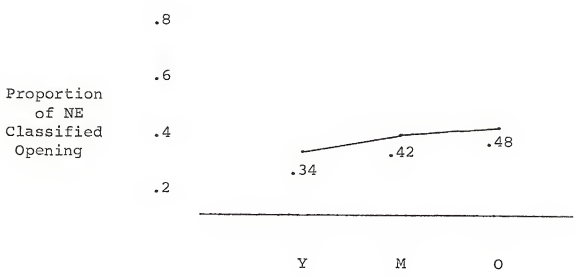


Figure 3

Null hypothesis 5

> Degree of self-actualization and Judged After-effects classified as O or C are not systematically related.

Three chi-square analyses were made, one for each category. Table 15 summarizes the frequencies used in computing the chi-squares. Table 16 summarizes the three chi-square computations.

The null hypothesis must be rejected. In all age groups, or, in other words, regardless of age, aftereffects of NE are related systematically to levels of self-actualization.

Table 17 shows the proportion by age category of NE judged O, for HI SA and LO SA Ss respectively. Although not significant statistically, the increasing proportion of O aftereffects of NE with increasing Age is in agreement with the model presented in Chapter I.

Null hypothesis 6

> There are no sex differences with respect to the previous five hypotheses.

With respect to the first null hypothesis concerning age and degree of self-actualization, three *t* tests (Guilford, 1965) were performed to compare the differences in the mean POI scores for each age category. The relevant data are summarized in Table 18 and results of the *t* tests are summarized in Table 19. There is a statistically significant

TABLE 15

Frequencies used in Chi-square Matrices of Self-actualization Versus Judged Aftereffects

Judged Aftereffect	Young (Y) HI SA	Young (Y) LO SA	Middle (M) HI SA	Middle (M) LO SA	Old (E) HI SA	Old (E) LO SA	Total
O	8	2	9	3	12	5	39
C	7	13	6	12	3	10	51
Total	15	15	15	15	15	15	90

TABLE 16

Results of Chi-square Analyses of Degree of Self-actualization Versus Judged Aftereffects

Age Category	X^2	df
Y	5.4*	1
M	5.0*	1
E	6.6*	1

*X^2 (alpha = .05, 1 df) = 3.84
X^2 (alpha = .01, 1 df) = 6.63

TABLE 17

Proportion of NE Aftereffects Judged O by Age Category and Degree of Self-actualization

	Y	M	E
HI SA	.47	.60	.80
LO SA	.13	.20	.33

TABLE 18

Means and Standard Errors of POI Scores
by Age Group and Sex

Age Group	Sex	N	Mean	S.E.
Y	F	80	98.2	1.38
	M	58	93.5	1.74
M	F	27	99.7	2.33
	M	27	102.7	2.38
E	F	29	103.4	1.99
	M	29	103.2	1.81

TABLE 19

Summary of t tests for Sex Differences in POI Scores

Group	Means	Difference	S.E. (of difference)	$\bar{z}$
Y	F - M	5.7	2.22	2.56*
M	M - F	3.0	3.70	.81
E	F - M	.4	2.69	.11

*$\bar{z}$ (alpha = .05) = 1.96
$\bar{z}$ (alpha = .01) = 2.57

difference between the self-actualization scores of Females and Males in the Y group, with Females exhibiting higher scores. Such sex differences occurred in the other age groups.

With respect to null hypothesis 2, relating to age and frequency of NE reported as most vivid, the chi-square analysis based on Table 10 was not significant and indicated no sex differences with respect to the frequency of reporting a NE as most vivid.

Two chi-square analyses were performed to evaluate possible sex differences with respect to null hypothesis 5, relating the factor of age and degree of self-actualization to type of experience selected as "more beneficial." The first matrix for HI SA Ss is shown in Table 20. The critical value of X^2 for alpha equal to .05 and 1 degree of freedom, is 3.841. The chi-square calculated from the matrix equals .0735 and is not significant. The second matrix for LO SA Ss is Table 21. Chi-square for this matrix equals 1.058 and is not significant.

Therefore there are no sex differences with regard to HI SA and LO SA choices of NE as the "more beneficial experience."

A test for sex differences regarding null hypothesis 4, referring to age and the frequency of judged aftereffects

TABLE 20

Chi-square Matrix of Sex Versus
"More Beneficial Experience" for HI SA Ss

More Beneficial Experience	Sex		Total
	F	M	
NE	6	6	12
PE	18	15	33
Total	24	21	45

TABLE 21

Chi-square Matrix of Sex Versus "More Beneficial Experience"

More Beneficial Experience	Sex F	M	Total
NE	8	11	19
PE	15	11	26
Total	23	22	45

classified as O or C, was included in the chi-square analysis (Table 14) testing that hypothesis. No sex differences were found.

Three chi-square analyses were performed to evaluate possible sex differences with regard to degree of self-actualization and judged aftereffects, based on data in Table 22. The results of these tests is summarized in Table 23. No sex differences are indicated with respect to hypothesis 5.

With respect to sex differences, only one is indicated from statistical tests of the previous five null hypotheses. There is a difference between the level of self-actualization (POI scores) of males and females in the Y group with females scoring higher.

Results of statistical testing of the six null hypotheses indicate rejection of numbers 1 and 5 and acceptance of numbers 2, 3, and 4. The sixth null hypothesis was accepted in all cases save one where a significant sex difference was indicated. Qualitatively, there was partial rejection of null hypotheses 2, 4, and 5 and further support for the rejection of hypothesis 1. In other words partial support is demonstrated for the model proposed in Chapter I. The findings are discussed in greater detail in the next chapter.

TABLE 22

Frequencies used in Chi-square Analysis of Sex Differences with Respect to Judged Aftereffects of NE and Degree of Self-actualization

Judged Aftereffects	Sex F	M	F	M	F	M	Total
O	7	4	4	8	11	6	40
C	10	9	10	8	5	8	50
Total	17	13	14	16	16	14	90

TABLE 23

Summary of Chi-square Tests for Sex Differences of HI SA and LO SA with Respect to Classification of NE as O or C

Age Category	X^2	df
Y	.22	1
M	1.42	1
E	1.79	1

X^2 (alpha = .05) = 3.84

CHAPTER IV

DISCUSSION

The factors of age and degree of self-actualization as related to the aftereffects of nadir experiences were examined. A model linking these variables was proposed and six hypotheses derived from this model were tested. In this section specific findings for each hypothesis and the general usefulness of the model will be discussed.

Fundamental to the proposed model is an assumption of increasing levels of self-actualization with increasing time (age). Results of testing the first hypothesis directly support this assumption. The difference between mean POI scores for the (E) and (Y) groups was significantly different (E higher than Y) and the difference between the (M) and (Y) groups was very close to that needed for significance. This is consistent with the reported norms for the POI which indicate a difference between adult and college scores. The smaller differential between the M and E categories is not statistically significant but nonetheless in the appropriate direction (E higher than M) as predicted from the model. It may be that among adults self-actualization changes occur

at a decreasing rate as is reflected in the present cross-sectional data. This would require confirmation through longitudinal studies.

The second hypothesis examined the relationship of age and the type of experience initially reported (NE or PE) to a request for a description of one's "most vivid experience." Previous reports by Margoshes and Litt (1966) and Lynch (1968) presented conflicting data with respect to the percentage of NE descriptions given by Ss in response to similar requests. In the former study, normal college students reported an excess of PE to NE (about 2 to 1), while in the latter study college students reported an excess of NE to PE (again, almost 2 to 1). In the current study, the (Y) group, most of whom were college students, gave more NE than PE reports as their most vivid experiences. They reported 80 NE compared to 54 PE, a ratio of about 3 to 2. While the (M) group reported a similar ratio of NE to PE, the (E) group reported an excess of PE compared to NE (31 PE to 21 NE) in almost inverse proportion to the responses of the (Y) group. Although the differences in these proportions were not statistically significant, the trend of the proportions with respect to age is consistent with the prediction from the model. Some difficulty in comparing Y, M and E category reports may stem from the very fact that age may differentially

influence interpretations of negative and positive. Several (E) group Ss commented that vivid experiences were both positive and negative in their very nature, particularly when the event occurred early in the life of the Ss. While some (M) group Ss also commented about the difficulty of evaluating vivid experiences, no mention was made of this by (Y) group Ss, who appeared to have little difficulty classifying their experiences as either positive or negative. This ambiguity among some Ss may have contributed to the lack of statistical significance for this hypothesis.

Hypothesis three concerned the general area of the benefit derived from intense experiences. In a previous study by Ebersole (1970) it was reported that of 36 Ss (college students) studied, 39 percent indicated that their NE were more beneficial than their PE. Similarly, in the current study, 40 percent of all Ss selected their NE as more beneficial than their PE (95 of the 236 Ss). The (Y) and (M) groups were alike in terms of the percentage of each group selecting a NE as the more beneficial. Of the former, 43 percent did so, while of the latter, 42 percent did so. In the (E) group, however, only 33 percent of the Ss chose a NE as the more beneficial. Thus, the general trend is for a higher percentage of (Y) group choices of nadir experiences as being "more beneficial" compared to (E) group choices, as is

predicted by the model.

The specific focus of hypothesis three was on the combined effect of age and degree of self-actualization on the choice of a NE or PE as the more beneficial. Ninety Ss were selected from the total group on the basis of their POI scores. These 90 were designated HI SA and LO SA individuals. Of these, 32 chose a NE as the more beneficial experience while 58 chose a PE (that is, about 33 percent of this group chose a NE compared to the total group in which about 40 percent did so). Hypothesis three was stated in terms of differential predictions for each age group and level of self-actualization. It was assumed that in the (Y) group the general level of self-actualization would be lower than in the other two groups (as born out by results from hypothesis one). However, a second, implicit assumption was that, in this group, those Ss functioning at higher levels of self-actualization (as indicated by their higher POI scores) would have been more likely to have achieved this level of functioning in connection with a nadir experience than with a peak experience. Nadir events were seen to be external events that would, in these cases, fortuitiously move the person into a mode of experiencing which would ordinarily have taken more time (age) to reach. Consequently, the prediction was that among HI SA Ss in the (Y) group, more would report a NE as the more

beneficial event. Results indicate the reverse to be the case.

With respect to the LO SA Ss in this group, the assumption was that these Ss would be functioning well below the threshold zone and that they would have experienced nadir events as stressful and closing. They would have experienced only "limited effect" peak experiences but would prefer these to the stressful recollections of nadir events. Hence the prediction that LO SA Ss in the (Y) group would report more PE as beneficial compared to NE reported as such. Results indicate the reverse to be true.

In examining these results for the differential predictions for the (Y) group several aspects of the hypothesis need to be looked at. First, as stated, an implicit assumption was contained in the prediction. It was assumed that HI SA Ss in this group would have had a single important nadir event which would have stood out in their recall because it would have initially triggered experiencing in a self-actualization mode. However, even if such an event did result in the first experience of self-actualization there is no reason to assume that subsequent peak episodes of equal or greater importance would not then occur. The error lies in assuming that Ss would respond to the question of which was more beneficial in order of occurrence, or with respect

to HI SA Ss, once they begin experiencing in a self-actualizing mode, experience more peak episodes with a subsequent diminishing of the relative number of nadir experiences. This increases the likelihood that more HI SA Ss, regardless of age, would report peak experiences as the more beneficial, which the data indicates to be true. Looking at the choices of HI SA Ss in the (Y) group shows a choice distribution of 10 PE to 5 NE; in the (M) group, HI SA Ss chose similarly (10 PE to 5 NE); in the (E) group, 12 HI SA Ss chose a PE while the remaining 3 HI SA Ss in this group chose a NE as the more beneficial.

In looking at the choices of LO SA Ss in the (Y) group it is important to keep in mind that these Ss have very low levels of self-actualization (based on POI scores). In reading the replies of this group it seems that many times a NE was selected as the more beneficial because it was seen by the S as validating the position of the respondent with respect to the need for distrust, suspicion, withdrawal, or expectation of disappointment in human relationships. An error was made in formulating the differential prediction with respect to LO SA Ss in the (Y) group because of the implicit assumption that they would define benefit in terms of the values implied in the self-actualization concept - i.e., openness, closeness, tolerance, understanding of self and others (acceptance), and

desire for self-expression. It seems that many LO SA Ss do not endorse or share these values in their current outlook, and hence, their selections of more beneficial experiences did not conform to the prediction.

The second differential component of hypothesis three focused on the (M) group choices of more beneficial experience. The comments about HI SA Ss made above apply also to the HI SA Ss of this group and may explain the lack of conformance to the predicted outcome of roughly equal PE and NE selections (the actual choice pattern was 10 PE to 5 NE). Similarly, the comments about LO SA Ss in the (Y) group also apply to LO SA Ss in this (M) group. However, the prediction for this last group was that they would choose more PE than NE, and in fact, they did so, with 9 PE to 6 NE.

The differential prediction of hypothesis three for the (E) group was that HI SA Ss would choose more PE and LO SA Ss more NE in terms of benefit. The choice pattern for this group shows HI SA Ss chose 12 PE to 3 NE, while LO SA Ss in this group chose only 4 PE but 11 NE. This pattern conforms with the predicted outcome (chi-square using these frequencies and 1 df with Yates correction is equal to 5.463, which is significant; alpha = .02). This implies, as the model predicts, that individuals vary considerably in their progress toward self-actualization. Those who are older and have

reached higher levels of such functioning report more peak experiences while those who have not done so tend to crystallize their views around nadir events (which are closing).

Another difficulty with hypothesis three stems from the vagueness of the request for a choice of experience as the "more beneficial." Because of different value or goal structures, it would have been better to try to operationally define these terms and thereby improve the precision of the hypothesis and measurement.

Upon examination, hypothesis three suffered from failures to consider implicit assumptions and operationalize terms. However, despite these problems, some support for the model is shown by the performance of the (E) group, while the data on the (Y) and (M) groups must be viewed with respect to the model predictions in the light of the extenuating factors discussed.

Hypothesis four predicted a relationship between age and the psychological aftereffects of nadir events (classified as either opening or closing by trained judges). Lynch (1968) reported data for 217 college students showing that 23 percent (25 of 108 NE) of their NE were judged to have been opening while the remainder were closing. In the current study, 34 percent of (Y) group Ss' aftereffects were classified as opening (45 of 134 NE). The percentage of opening aftereffects among (M) and (E) group Ss was even higher; 42 percent

and 48 percent respectively. This trend of more frequent opening NE aftereffects with increasing age is consistent with the model, although not statistically significant.

Hypothesis five examined the relationship of self-actualization to the aftereffects of NE as classified by trained judges. Clearly, on the basis of statistical analysis, levels of self-actualization are related to the after-effects of nadir experiences.

In the Lynch (1968) study, the 27 Ss designated as high in Self-esteem and the 27 Ss designated as low in Self-esteem (based on Tennessee Self-concept Scale scores) were judged to have had very different NE aftereffects. The high Self-esteem Ss had opening aftereffects in 81.5 percent of the cases while the low Self-esteem Ss had opening aftereffects in only 11.1 percent of the cases. In the current study, HI SA Ss had opening aftereffects in only 60 percent of the time and LO SA Ss had opening aftereffects in 20 percent of the cases. The difference in these two studies may stem from differences in the factors measured by the instruments used in each study, the influence of age distributions of the Ss, or a combination of these. It is interesting to note that among HI SA Ss there is an increasing frequency of opening aftereffects as age increases (8 in the Y category, 9 in the M category, and 12 in the E category). The same pattern

occurs for the LO SA Ss (2 in the Y category, 3 in the M category, and 5 in the E category).

Results of the tests of hypotheses four and five suggest that age contributes to a greater likelihood of an opening aftereffect from a NE via the fact that age increases the chance of achieving a higher level of self-actualization which appears to be a critical factor in determining the outcome of a nadir experience. The importance of age as a factor in the development of one's capacities has been mentioned frequently by psychologists (Jung, 1933; Allport, 1955; Horney, 1971).

Only a single case of sex differences (hypothesis six) was found in this study. Although the POI manual states that no sex differences in POI scores among college students exists, in the current study, female Ss in the (Y) group had significantly higher POI scores than males in this group. Such an implied difference in functioning had not been reported in previous studies which might suggest a need to examine more closely the changing roles of men and women. Current consciousness raising efforts and other contemporary attempts to liberate individuals from traditional or stereotyped ways of perceiving themselves and others are commonly focused on college age groups. It may be that such efforts, when they endorse the same general notions as those underlying the

concept of self-actualization, might be reflected in scores from measures such as the POI. The higher average score of females could be a result of their being the target of many efforts by "women's lib" movements, growth programs, and educational programs designed to broaden women's roles. Young men, on the other hand, appear to be less frequently exhorted or encouraged to concentrate on dramatic role changes and may therefore reflect a more "traditional" view, with correspondingly lower POI scores.

Implications for the Model

The model proposed a relationship between two factors, age and degree of self-actualization. Additionally it specified that these two factors were important as determinants of the aftereffects of nadir experiences. Also, the concept of a threshold zone was suggested as a possible explanatory construct with respect to the differential impact of nadir experiences at different ages.

Results of the current study clearly demonstrate the importance of age as a contributing variable with respect to the aftereffects of nadir experiences. The proposed linkage between age and level of self-actualization was supported. Increasing levels of self-actualization are associated with increasing age. According to the model this is a reflection of

greater satisfaction of lower order needs over time with a consequent increase in needs of self-actualization. Satisfaction of these emergent self-actualization needs leads to higher levels of self-actualization. In turn, higher levels of self-actualization were shown to be directly related to the aftereffects of nadir experiences. Higher levels of self-actualization dramatically increase the likelihood of an opening aftereffect following a nadir event. Conversely, lower levels of self-actualization are associated with a greater likelihood of closing aftereffects following nadir events.

Thus, the major aspects of the model which linked age, degree of self-actualization and aftereffects of nadir experiences, were supported by the results of this study. The applicability of the concept of a threshold zone, which was not particularly within the scope or focus of this study was not specifically demonstrated. It would seem that further research on this construct is warranted by the results of this study in view of the support demonstrated for the model with respect to its major aspects.

Suggestions for Further Research

Continued research on the outcomes of nadir experiences, with particular emphasis of the process and circumstances

associated with differential aftereffects of these episodes would be directly relevant to the efforts of crises clinics, emergency units, and suicide centers. Additionally, there are possible applications within the areas of religion, education and personal growth.

Referring to the model discussed in this study, additional research should be focused on exploring the value and application of the concept of a threshold zone. While the broad functional relationships of age, degree of self-actualization and aftereffects of nadir experiences were examined, the concept of threshold zone remains to be studied. This notion might be useful as a first approach to specifying the basis for differential aftereffects to nadir episodes on an individual basis. One possibility would be a case study approach in which detailed information from subjects might be examined to delineate the flow of experience for individuals at various levels of self-actualization following nadir events. The specification of such processes might also lead to attempts to identify threshold ranges by analyzing the responses of individuals to instruments such as the POI.

Another area for investigation would be an examination of how closing or opening aftereffects influence subsequent levels of self-actualization, as implied by the model. A possible approach might be to follow up individuals who have

had opening and closing nadir experiences for a year or two after the episode. Measurement of levels of self-actualization and exploration of the manner in which such episodes are dealt with would provide important information on the concept of threshold zone effects.

There are, of course, numerous other possible ways to utilize the currently proposed model as a basis for further research into nadir experiences. The main purpose of the author's efforts was to examine a commonly occurring phenomenon, nadir experiences, with an eye toward establishing some framework within which to probe the potential usefulness of such episodes in a positive fashion. That is, much of the focus on growth and development consists of efforts to lead individuals into a greater sense of self, a heightened awareness of their ability to influence their life in a satisfying manner, or an enhanced capacity to experience life more fully. While such efforts are to lauded, often the common and frequent experiences of life which might provide access to such functioning are overlooked or mishandled as a result of our lack of knowledge and skill in using these events in a positive way. Nadir events involving extreme negative emotional conditions might well provide one of the most accessible and directly useful opportunities for working with individuals in such a way that they might significantly alter their mode

of experiencing life with subsequent improved functioning and increased happiness and satisfaction. Results of the current study demonstrate that research on these experiences and their aftereffects can provide functional and structural information. Further research might expand our knowledge in the area of dynamics as well as structure and function.

APPENDICES

APPENDIX A

Vivid Experiences Study Questionnaire

This study is concerned with Vivid or Intense Experiences. All of us have experienced such episodes. They may have been intensely pleasurable, happy or joyous; or, intensely painful, sad or sorrowful. In this study you will be asked to write descriptions of some of your experiences. First, however, please answer the following general information questions. Do not sign your name or directly identify yourself on this or any of the following pages. Thank you for assisting with this study.

General Information Questions

Age____ Occupation (generally) _____

Sex: Male Female Education(highest grade completed)_____

Degrees _____

Marital Status: Single Married Divorced Widowed Separated

Financially, I would classify myself as (circle the most appropriate):

Above average Average Below average

Considering my age, I would describe my health as (circle again):

Above average Average Below average

With respect to your current residence please give:

1. The district of the city of S.F. (i.e., Marina, Fillmore) or the Bay Area location (i.e., Berkely Hills, Oakland-westside) in which you live.

2. The names of the major cross streets of the intersection nearest you.

If you have completed all the above, please turn to the next portion of this packet (Part I, page B). Do not turn to any other pages until you have completed the next section. Thank you.

Part I (Page B)

Take a few moments to think of your most vivid experience in life, the experience you remember as most intense in your life. Please describe this event, that is, the circumstances and what occurred. Be as brief and succint as possible (try to use a single paragraph) in your description of what took place. As soon as you have finished, but not before, turn to the next section, Part II (Page C).

Part II (Page C)

In reference to the event or episode you just described please state below what, if any, aftereffects this experience has had in your life. Describe such aftereffects as fully and completely as you can (how you felt, what changes occurred, impact in your relationships with others, etc.). Be as detailed and complete as possible (if you need additional pages please ask). Use pages C, D, E, and F for your description. Remember, you may include any details, however intimate or personal they may be, and you will not be personally identified in this study. After completing your description go on to Section III (Page G).

Part III (Page G)

Please reflect upon the intense experience which you described initially, Part I (Page B). Think about the event (not the aftereffects) in terms of how you felt about it at the time it occurred. That is, did you feel that the episode, at the time it happened, was a positive or a negative one regardless of its aftereffects or your later feelings about it.

Select the statement below which more accurately reflects how you felt about the event at the time you experienced it.

_____ The experience I described in Part I (Page B), not the aftereffects, seemed to me to be a positive one at the time it occurred.

_____ The experience I described in Part I (Page B), not the aftereffects, seemed to me to be a negative one at the time it occurred.

After you have marked one of the above statements go on to Part IV (Page H). Do not go on until this section is completed--if you need assistance, please ask for help.

Part IV (Page H)

In this section you are again asked to describe a vivid, intense experience. If the experience you initially described was a positive one (that is, you marked it positive in the last section) then you are to describe your most vivid and intense negative experience. Conversely, if the initial experience was a negative one, then describe your most vivid positive experience. Please be as brief and succint as possible giving the situation and circumstances of the occurrence (try to limit it to one paragraph). After you have finished please go on to Part V (Page i).

Part V (Page i)

Reflect now upon the experience you just described in the previous section. Please state below what, if any, after-effects this experience has had on your life. Describe any aftereffects as fully and completely as you can (how you felt, what changes occurred, impact in your relationships with others, etc.). Be as complete and detailed as possible. Use pages J, K, and L as well as this one, and if you need additional pages please ask. Only when you have finished, go on to Part VI (Page M).

Part VI (Page M)

Please consider the aftereffects of the two experiences which you described. Of these two which one had the most beneficial aftereffects in your life, which one helped you to become a better person? Select the statement that applies.

_____ I feel that the first experience which I described (Part I, Page B) was the more beneficial in its aftereffects in terms of helping me to become a better person.

_____ I feel that the second experience which I described (Part IV, Page H) was the more beneficial in its aftereffects in terms of helping me to become a better person.

When you have finished turn in the entire packet as instructed.

APPENDIX B

Instructions to Judges

In this study, each individual was asked to describe an extremely negative experience in his or her life. Then each person was asked to describe the aftereffects of this experience in terms of how it made them feel, how he or she changed their life, what impact it had in their relationships with others, etc.

The purpose of this portion of the study is to determine how many of the reported negative experiences were of an Opening nature and how many of them were of a Closing nature.

> In this study an Opening experience is defined as one which leads a person to report that she or he feels closer to people, is more tolerant of others faults, has become more aware of the "meaning of life", or has achieved greater self-knowledge and self-acceptance.
>
> Conversely, a Closing experience is defined as one which leads a person to report that he or she is more suspicious or distrustful of people, is more critical (less tolerant) of others' faults, has become insecure or unhappy (baffled or confused by life), or has tried to forget or repress the experience.

Each individual's reported aftereffect has been typed on a 6 by 9 in. card. You are to read the typed aftereffect and then decide if the experience was an Opening or Closing one. (Note - you will not know the actual negative experience described, only the reported aftereffect of it, so you are being asked to judge the experience in terms of the aftereffect only).

The following are some descriptions of aftereffects to illustrate Opening and Closing experiences.

> Now that a number of years have passed, I still avoid thinking about it as the pain is still there and probably always will be (Lynch, 1968)...

With this aftereffect, the experience would be classified as: Closing

> This incident left us almost in a state of shock, as we were totally unprepared. Everything had gone so well up until that time, we just took it for granted that nothing of this nature could happen to us.
>
> Since that time we have adjusted to this unfortunate event. It has helped me to consider others in their time of need (McKenzie, 1967).

With this aftereffect, the experience would be classified as: Opening

> It was a discovery, a first discovery, but it was one I had intuitively realized before, so it wasn't intense because it was just new. I feel that discovery never ends, and one second of communication is hardly all that anyone should strive for. I think that I could feel even more intense with the same person. Possibly, and very probably, I could feel this intense with a number of individuals. I must stress that my means of having this experience was not the experience itself. There could be many other means to achieve this same end. I could find this same rapport again with a male or a female. Ironically, the most difficult thing for humans to do is to communicate with one another. Some don't even want to; some never even think about it; but I don't think it is necessary for human fulfillment (Lynch, 1968).

With this aftereffect, the experience would be classified as: Opening

> .....I moved to Virginia, to get away from it all, and after about seven months of hard work, it just didn't matter any more. I still don't really understand what happened (Lynch, 1968).

With this aftereffect, the experience would be classified as: Closing

> For a long time this picture and the sounds lingered with me. Expecially near Christmas,

> I think of the serious impact it had on me. Since this incident, I don't attempt to go to fires or anything of that nature. As I grow older, my nerves are getting worse and worse, and I believe this is why I can not go to sleep without sleeping pills (Lynch, 1968).

With this aftereffect, the experience would be classified as: Closing

> Having nothing else to do, I came home and withdrew as much as possible from everyone (McKenzie, 1967).

With this aftereffect, the experience would be classified as: Closing

> As I reflect, this indeed was the most intense moment of my life, as it has given me insight into the meaning of life and death (Lynch, 1968).

With this aftereffect, the experience would be classified as: Opening

> I was brought up to have great respect for my elders, and had never hit an older person. I was expelled from school and have never been to a Catholic, or for that matter, any church since. I have consequently lost all sense of religion. My parents, devout Catholics, pray for me continually. This nun has ruined any feeling I might have had towards my spiritual soul (Lynch, 1968).

With this aftereffect, the experience would be classified as: Closing

Procedures for Judges

You have been given the cards on which the aftereffects are typed, two brown envelopes, a sheet of paper and a pencil. One envelope is marked Opening and the other Closing. Take a card, read the aftereffects, and decide whether, using the definitions and examples given, the experience to which it refers was an Opening or Closing one. Place the card in the appropriately labelled envelope. Continue through the stack until all the cards have been categorized.

If you cannot decide, on the basis of the aftereffect report, whether an experience was Opening or Closing, lay the after-effect card aside and go on with the remaining stack of cards. After you have gone through the stack, return to any out-standing cards and again try to decide whether they were indicative of an Opening or Closing experience.

Any remaining aftereffects cards which you cannot judge should be listed by the number in the upper right hand corner of the card, on the sheet of blank paper. Then fold the paper around these cards.

Place all these Undecided cards and the list in the Opening envelope.

Seal the envelopes and sign your name on them. Return them to me.

After all the judges have sorted the cards, we will meet to review those Undecided cards to see if they can be cate-gorized after clarification of grammer, words, references, or other problems in communication.

APPENDIX C

Summary of Raw Data

Key to Symbols of Abbreviations used in Summary of Raw Data

Column Headings abbreviated as follows:

Heading	Symbol
Subject Number	S.N.
Marital Status	M.S.
Health	H
Financial Status	F
Education	Educ.
Sex	Sx
Combined Raw Scores of I and T_c Scales of POI	POI
Type of 1st Experience Reported	F.E.
Subject's Choice of "More Beneficial Experience"	M.B.E.
Aftereffect of NE as Judged by Panel	A.E.
High or Low Self-actualizer (based on POI scores)	HI/LO SA

Data under Column Headings abbreviated as follows:

Item	Symbol
Retired (under Occupation)	R
Student (under Occupation)	S

APPENDIX C

Summary of Raw Data (Continued)

Item	Symbol
Single (under Marital Status - M.S.)	S
Married (under Marital Status - M.S.)	M
Divorced (under Marital Status - M.S.)	D
Widowed (under Marital Status - M.S.)	W
Separated (under Marital Status - M.S.)	Sp
Above Average - self rating (under Health - H; and Financial Status - F)	1
Average - self rating (Health - H; Financial Status - F)	2
Below Average - self rating (Health - H; Financial Status - F)	3
Negative Experience (under F.E. and M.B.E.)	N
Positive Experience (under F.E. and M.B.E.)	P
Opening Aftereffect (under A.E.)	O
Closing Aftereffect (under A.E.)	C
High Self-actualizer (under HI/LO SA)	HI
Low Self-actualizer (under HI/LO SA)	LO

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
1	17	S	S	2	2	12	F	99	N	P	O	
2	18	S	S	2	1	12	F	94	P	N	C	
3	18	S/Waitress	S	2	1	12	F	120	P	P	O	HI
4	18	S	S	2	1	12	F	121	N	N	O	HI
5	18	S/Seamstres.	S	2	1	14	F	99	N	P	O	
6	18	S	S	2	2	12	F	97	N	P	C	
7	18	S	S	2	2	12	F	101	N	P	C	
8	18	S	S	1	2	12	F	77	P	N	C	LO
9	18	S	S	2	2	12	F	97	P	P	C	
10	18	S/Lifegd.	S	2	3	12	F	106	N	P	C	
11	18	S	S	1	2	12	F	117	N	P	C	HI
12	18	S	S	1	2	12	F	107	N	P	C	
13	19	S	S	2	2	12	F	101	N	N	O	
14	19	S	S	2	2	12	F	98	P	N	C	
15	19	S/Gymn. T.	S	1	2	13	F	115	N	N	C	HI
16	19	S	S	2	2	12	F	81	N	N	C	
17	19	S	M	2	3	13	F	111	P	N	C	
18	19	S/Sales	S	1	2	13	F	100	N	P	C	
19	19	S	S	2	2	13	F	95	P	N	C	
20	19	S	S	2	2	13	F	82	N	N	O	
21	19	S/Cashier	S	2	3	13	F	94	N	N	O	
22	19	S/Piano T.	S	2	3	14	F	102	N	N	O	

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
23	19	S/Nurse Aid	S	2	2	13	F	93	N	P	C	
24	19	S	S	2	2	13	F	106	N	P	C	
25	19	S	S	1	2	13	F	94	N	N	C	
26	19	S	M	2	2	13	F	100	N	P	C	
27	19	S	S	2	2	14	F	76	N	N	C	LO
28	19	S	S	1	2	13	F	108	N	N	O	
29	19	S/Waitress	S	1	1	13	F	73	N	P	C	LO
30	19	S	S	2	3	13	F	109	N	P	C	
31	19	S/Sales Ck.	S	2	2	13	F	99	P	P	C	
32	19	S	S	2	2	14	F	93	N	P	C	
33	19	S/Counslr.	S	2	2	13	F	84	P	N	C	
34	19	S	S	1	1	14	F	115	N	P	N	HI
35	19	S/Sec.	S	1	2	13	F	111	P	P	C	
36	19	S/Cashier	S	1	2	12	F	109	Incomplete Form			
37	20	S/Clerk	S	2	2	13	F	86	P	P	O	
38	20	S	S	1	2	14	F	110	N	P	C	
39	20	S	S	1	1	14	F	101	N	P	C	
40	20	S	M	2	2	14	F	101	N	P	O	
41	20	S	S	2	2	14	F	113	N	P	O	
42	20	S/Legal S.	S	2	2	14	F	81	N	N	C	
43	20	S/Clerk	M	1	2	15	F	102	P	P	C	
44	20	S	S	1	2	14	F	90	N	P	C	
45	20	S	S	1	2	14	F	86	N	P	N	

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
46	20	S	S	2	2	15	F	91	N	N	C	
47	20	S	S	2	2	12	F	109	P	P	C	
48	20	S/Sales Ck.	S	2	2	12	F	93	N	P	C	
49	21	S/Sales Ck.	S	2	2	14	F	96	N	P	C	
50	21	S	S	2	2	14	F	108	P	N	C	
51	21	S	S	1	2	15	F	82	N	P	C	
52	21	S/tutor	S	1	3	15	F	117	F	N	O	HI
53	21	S	S	2	3	14	F	73	N	N	C	LO
54	21	S/NCR Optr.	S	2	2	14	F	81	P	P	C	
55	21	S/Housewife	M	1	2	12	F	114	P	P	O	HI
56	21	S	M	2	3	12	F	90	N	N	C	
57	21	S	S	2	2	14	F	100	N	N	O	
58	21	S	S	2	2	14	F	99	P	N	O	
59	21	S/Sec.	M	2	2	12	F	86	Incomplete Form			
60	22	S/Clerk	M	2	3	14	F	97	P	P	C	
61	22	S/Clerk	S	2	3	14	F	92	P	N	C	
62	22	S/Waitress	S	2	2	13	F	68	P	N	C	LO
63	22	S	S	2	2	15	F	86	N	P	O	
64	22	S/Typist	S	2	2	14	F	115	P	P	C	HI
65	22	S/Sec.	M	1	2	13	F	92	P	N	C	
66	23	S/Off. Wkr.	S	1	3	13	F	114	P	P	C	HI
67	23	S	D	2	3	13	F	101	N	P	O	
68	23	S/Adm.Asst.	D	2	2	13	F	116	P	P	C	HI

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
69	23	S/Housewife	M	2	2	14	F	91	N	P	C	
70	24	S/Bank Ck.	S	2	2	15	F	75	P	P	C	LO
71	24	S/Nurse (RN)	M	2	2	14	F	103	P	P	C	
72	24	S/Nurse (LN)	S	2	2	14	F	107	N	N	C	
73	24	S/Rec. Dir.	S	1	2	14	F	115	N	P	O	HI
74	24	S/Teleph. O.	Sp	2	2	12	F	102	N	N	C	
75	24	S/Sec.	S	2	2	14	F	110	P	P	C	
76	24	S/Key Pnch.	D	2	2	12	F	91	P	N	O	
77	24	S/Sec.	Sp	2	2	12	F	87	P	P	O	
78	25	S/P.O. Ck.	Sp	2	2	13	F	102	N	P	C	
79	25	S/Nurse (RN)	M	1	2	15	F	94	N	P	O	
80	25	S/Sec. (Med)	D	1	2	12	F	104	N	P	C	
81	18	S/Ck.	S	1	1	12	M	105	N	N	O	
82	18	S	S	1	2	12	M	81	P	P	O	
83	18	S	S	1	1	12	M	91	P	N	C	
84	18	S	S	1	2	12	M	107	P	N	C	
85	18	S/Ck.	S	1	2	12	M	106	P	N	O	
86	18	S/Ck.	S	3	1	12	M	96	P	N	C	
87	18	S	S	2	2	12	M	92	P	P	C	
88	18	S	S	1	3	12	M	87	N	P	C	
89	18	S	S	1	2	12	M	77	P	P	C	LO
90	19	S	S	1	2	13	M	92	N	N	C	
91	19	S/Ck.	S	1	2	12	M	95	P	P	C	

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
92	19	S/Swim T.	S	2	3	14	M	82	N	N	C	
93	19	S/Ck.	S	1	1	12	M	121	P	P	C	HI
94	19	S	S	2	2	13	M	96	P	N	C	
95	19	S	S	2	1	13	M	99	P	N	C	
96	19	S	S	1	2	13	M	99	N	N	C	
97	19	S/Janitor	S	1	1	13	M	99	P	N	C	
98	19	S	S	1	2	14	M	109	P	P	C	
99	19	S/Maint.M.	S	1	3	13	M	89	N	P	C	
100	19	S/Salesman	S	2	3	13	M	90	N	N	C	
101	19	S	S	2	2	14	M	89	P	N	C	
102	19	S/Sec.	S	1	2	12	M	118	N	N	O	HI
103	19	S/Mail Ck.	S	2	3	14	M	99	P	P	C	
104	20	S	S	1	2	14	M	75	P	P	C	LO
105	20	S/Shoe Ck.	S	1	2	13	M	87	N	N	C	
106	20	S	S	1	2	12	M	108	N	P	O	
107	20	S	S	1	2	13	M	104	N	P	O	
108	20	S	S	2	2	15	M	116	N	P	O	HI
109	20	S/News Mgr.	S	1	1	14	M	79	N	N	O	
110	20	S	S	2	1	14	M	99	P	N	C	
111	20	S	M	1	3	14	M	92	N	P	C	
112	20	S	S	1	2	14	M	95	N	P	O	
113	20	S	S	3	1	13	M	73	N	N	C	LO
114	20	S	S	1	2	14	M	99	P	N	O	

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
115	20	S/Inv. Ck.	S	1	2	14	M	111	P	N	C	
116	20	S	S	2	2	14	M	81	N	P	O	
117	20	S	S	1	2	14	M	99	N	P	O	
118	20	S	S	1	2	14	M	66	N	N	N	LO
119	21	S	S	1	2	14	M	71	P	P	C	LO
120	21	S	S	1	3	14	M	97	P	P	C	
121	21	S/Nursy. W.	S	1	3	15	M	65	N	P	C	LO
122	21	S/Artist	S	1	3	14	M	103	P	P	O	
123	23	S	S	2	3	14	M	92	N	P	C	
124	23	S/Ck.	S	3	3	14	M	95	N	N	C	
125	23	S/Eng. Tec.	S	2	2	15	M	75	P	N	C	LO
126	23	S/Laborer	S	2	2	13	M	92	N	P	C	
127	24	S	M	2	3	13	M	78	P	N	C	
128	24	S/Groc. Ck.	M	1	2	15	M	91	N	P	O	
129	24	S/Civil Sr.	M	2	2	14	M	112	N	P	O	
130	24	S/Police O.	M	1	1	12	M	96	N	P	C	
131	24	S/Ck.	S	2	2	16	M	76	N	N	O	LO
132	24	S/Ins. Adj.	M	1	1	12	M	108	N	P	C	
133	24	S/Mason	S	1	3	12	M	103	Incomplete Form			
134	25	S	M	2	2	13	M	96	N	N	O	
135	25	S/Constlt.	M	1	2	15	M	119	N	P	O	HI
136	25	S/Attorney	M	L	2	17	M	78	N	N	O	
137	25	S/Barber	M	1	1	13	M	91	N	P	C	

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
138	25	S/Mechanic	M	2	2	12	M	84	Incomplete Form			
139	37	Mother/Sec.	D	1	1	12	F	94	N	N	N	LO
140	37	Housewife	Sp	1	1	14	F	100	P	P	C	
141	37	Sec.	S	1	1	12	F	99	N	P	C	
142	37	Housewife	M	2	2	15	F	109	N	P	C	HI
143	37	Housewife	M	2	1	16	F	108	N	N	O	
144	38	School Adm.	D	1	2	14	F	87	P	P	C	LO
145	38	Clerical	M	2	2	12	F	91	N	N	C	LO
146	38	Dillitante	S	2	3	16	F	106	N	N	O	
147	38	Clerical	S	2	2	12	F	91	N	P	C	LO
148	38	Housewife	S	2	2	12	F	103	N	N	C	
150	39	Waitress	S	1	3	14	F	100	N	P	C	
151	39	S/Housewife	M	1	2	17	F	116	P	P	C	HI
152	39	Housewife	M	2	2	13	F	94	N	P	C	LO
153	39	Housewife	M	1	1	14	F	105	N	N	O	
154	39	Worker	M	2	2	16	F	119	Incomplete Form			
155	40	Housewife	M	2	2	13	F	91	P	P	C	LO
156	42	Bookkeeper	M	1	1	12	F	112	P	P	O	HI
157	42	Banking	W	2	2	12	F	98	P	N	N	
158	43	Clerk	M	2	2	16	F	91	P	P	C	LO
159	43	Ck-typist	D	1	2	14	F	104	N	N	O	
160	44	Nurse	M	2	2	14	F	80	N	N	O	LO
161	44	Housewife	M	2	1	13	F	91	P	P	C	LO

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
162	45	Sales	M	2	2	12	F	98	P	N	C	
163	45	Nursing	S	2	2	12	F	109	N	N	O	HI
164	45	Artist	D	2	3	18	F	129	N	P	O	HI
165	45	Bookkeeper	M	3	2	12	F	71	Incomplete Form			
166	37	Chemist	M	2	1	14	M	109	P	N	C	HI
167	37	Butcher	M	2	2	12	M	97	P	P	C	
168	37	Const. Wkr.	D	2	2	12	M	79	N	P	O	
169	37	Police Off.	M	1	2	15	M	101	N	P	O	
170	37	Laborer	D	2	3	12	M	87	N	N	O	LO
171	37	Self-Emplyd.	D	1	1	16	M	131	P	N	O	+
172	37	Computer O.	M	1	2	12	M	103	Incomplete Form			
173	38	Gardener	S	2	2	15	M	110	P	P	C	HI
174	38	Longshrman	M	2	3	13	M	84	N	N	O	LO
175	39	Counselor	S	2	2	16	M	107	P	P	O	
176	39	Professor	S	1	1	19	M	110	N	P	C	HI
177	39	Artist	M	2	3	12	M	115	N	N	O	HI
178	39	R.E. Broker	D	2	2	14	M	106	N	P	C	
179	39	PBX Install.	M	2	2	15	M	114	N	N	O	HI
180	40	Business	M	1	2	18	M	97	P	P	C	
181	40	Baker	M	2	2	12	M	89	N	P	C	LO
182	40	Counselor	S	1	3	20	M	118	N	P	C	HI
183	40	Whseman	M	1	2	13	M	109	P	P	O	HI
184	40	Accounting	M	2	2	14	M	101	N	P	C	

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H.	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
185	41	Physician	D	1	2	20	M	114	P	N	O	HI
186	41	Clerk	M	2	2	12	M	102	Incomplete Form			
187	42	Musician	M	2	3	15	M	96	P	P	O	HI
188	42	S	M	2	3	13	M	94	N	N	C	LO
189	43	Professor	M	2	1	19	M	115	N	P	O	HI
190	44	Salesman	D	1	2	12	M	96	P	N	C	
191	44	Technician	M	2	2	15	M	87	P	N	C	LO
192	45	Engineer	M	2	2	16	M	86	P	P	C	+
193	62	R/Dent. Rcpt.	M	1	2	12	F	79	P	P	O	LO
194	62	Librarian	W	1	2	16	F	118	P	P	C	HI
195	62	R/Sales	M	2	1	12	F	107	P	N	O	
196	62	Nurse	M	1	2	15	F	114	P	P	O	HI
197	63	R/Soc. Ser.	M	1	1	17	F	111	P	P	O	HI
198	63	Key Pnch. O.	M	1	2	12	F	97	N	N	O	LO
199	63	Housewife	M	1	2	12	F	115	N	N	O	HI
200	63	R/Stenog.	W	3	3	13	F	102	P	P	C	
201	63	Housewife	M	2	2	12	F	99	N	N	O	LO
202	63	Housewife	M	1	2	16	F	105	N	N	O	
203	64	Housewife	M	2	2	12	F	105	N	N	C	
204	64	Librarian	S	1	2	18	F	104	P	P	C	
205	64	R/Housewife	W	2	3	12	F	110	P	P	O	
206	64	R/Business	D	1	2	13	F	86	P	P	C	LO
207	65	R	W	1	2	10	F	102	Incomplete Form			

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
208	65	R/Gov. Adm.	S	1	2	16	F	105	P	P	O	
209	65	Med. Tech.	S	2	2	17	F	100	N	N	C	
210	65	R/Proofrdr.	S	2	2	15	F	88	N	P	C	LO
211	66	R	W	1	2	15	F	114	P	P	C	HI
212	66	R/Sec.	D	3	2	9	F	97	P	P	O	LO
213	66	R/Civil Ser.	S	2	2	13	F	94	P	P	C	LO
214	66	R/Checker	W	2	2	11	F	109	N	P	C	
215	67	R	S	1	2	12	F	122	P	P	O	HI
216	68	Manager	W	1	2	18	F	109	P	P	C	
217	68	Psychologist	M	1	2	16	F	114	N	P	O	HI
218	68	Social Wkr.	S	1	2	17	F	101	Incomplete Form			
219	68	Voc. Nurse	D	2	2	14	F	99	Incomplete Form			
220	70	R/Teacher	W	2	2	16	F	80	P	P	C	LO
221	70	R.E. Broker	M	1	2	15	F	114	P	P	O	HI
222	62	Banker	M	1	1	16	M	100	N	N	C	
223	62	Postman	M	3	3	14	M	95	N	N	C	
224	62	Professor	M	2	2	17	M	110	N	N	C	
225	63	R/Clerical	M	1	1	16	M	110	P	P	O	
226	63	Marketing Sp.	M	1	1	15	M	117	P	N	O	HI
227	64	E/Engineer	W	1	2	14	M	84	N	P	C	LO
228	64	R	M	1	1	16	M	95	N	P	O	LO
229	64	R/Proofrdr.	M	2	1	20	M	108	P	P	C	
230	64	Stagemgr.	M	1	1	17	M	104	N	N	C	

APPENDIX C

Summary of Raw Data (Continued)

S.N.	Age	Occupation	M.S.	H	F	Educ.	Sx	POI	F.E.	M.B.E.	A.E.	HI/LO SA
231	64	Col. Adm.	M	2	1	18	M	115	P	P	O	HI
232	66	Retirem. C.	M	1	2	8	M	106	N	N	O	
233	66	R/Civil Eng.	M	2	2	16	M	109	P	P	O	
234	67	R/Architect	M	1	1	9	M	110	P	P	O	HI
235	67	Physician	M	1	1	20	M	107	P	N	C	
236	68	R	M	1	2	12	M	104	Incomplete Form			
237	69	R	M	2	2	15	M	87	N	P	C	LO
238	69	Parole Agt.	S	2	3	17	M	97	N	P	C	LO
239	69	Shoe Sales	M	2	2	14	M	113	N	N	O	HI
240	69	Pharmacist	M	2	1	18	M	112	N	P	C	HI
241	69	R	M	1	1	9	M	107	P	P	O	
242	69	R/Chem Wkr.	M	2	2	12	M	80	Incomplete Form			
243	70	Draftsman	W	2	2	13	M	98	P	N	C	LO
244	70	Merchant	M	1	3	15	M	88	P	P	C	LO
245	70	Dentist	M	2	2	17	M	105	P	N	C	
246	70	Importer	M	1	1	16	M	101	N	P	C	
247	70	Controller	M	3	2	18	M	103	P	P	C	
248	70	Minister	M	1	1	16	M	112	P	P	O	HI
249	70	R	M	1	2	12	M	115	P	P	C	HI
250	70	R	M	2	1	16	M	94	Incomplete Form			

+Excluded from categories of HI or LO SA because of tie scores (see Chapter II).

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BIOGRAPHICAL SKETCH

Charles Curtiss Kaufman was born April 14, 1937, at St. Louis, Missouri. In June, 1955 he was graduated from Waterloo Public High School. After completing four years of military duty he returned to the University of Illinois and in August, 1963, received a Bachelor of Science degree, majoring in Economics. He was employed by Shell Oil Company, Los Angeles, from 1963 until 1965. From 1965 to 1967, he was employed by Prentice-Hall Publishing Company, Los Angeles. He enrolled in the Graduate School of California State University at Los Angeles in 1967. He was accepted in the Graduate Program at the University of Florida in 1968. He received his Master of Arts degree with a major in Psychology in 1971. From June, 1971 until the present time he pursued his work toward the degree of Doctor of Philosophy.

He is currently associated with the Institute of Human Development, University of California, Berkeley, as a research psychologist.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Psychology.

Dr. Benjamin Barger, Chairman
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Psychology.

Audry S. Schumacher, Ph.D.
Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Psychology.

Robert Hornberger, Ph.D.
Assistant Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Psychology.

Richard M. Swanson, Ph.D.
Assistant Professor of Psychology

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Psychology.

William W. Purkey, Sr., Ph.D.
Professor Foundation of Education

This dissertation was submitted to Graduate Faculty of the Department of Psychology in the College of Arts and Sciences and to the Graduate Council, and was accepted as partial fulfillment of the requirements for the degree of Doctor of Psychology.

Dean, Graduate School